CRANFIELD UNIVERSITY

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# EVALUATING THE FINANCIAL ROBUSTNESS OF SPECIAL PURPOSE VEHICLES INVOLVED IN THE DELIVERY OF DEFENCE PRIVATE FINANCE INITIATIVES

CRANFIELD DEFENCE AND SECURITY

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# ABSTRACT

Public sectors in the developed and emerging economies have been witnessing a period of intense change over the past three decades as a result of the development of free-market economy across the globe. In the UK, the public sector in 1970s (that comprised of nationalised industries) was severely criticised for being wasteful, and subject to political intervention, thereby making them inefficient systems for delivering public services. To put matters right, successive governments from the late 1970s embarked on public sector reforms. These reforms centred on increasing the role of private sector in delivering public services. Privatisation, the implementation of accruals-based accounting and application of compulsory competitive tendering in the public sector were some of these reforms. Public-private partnerships, including private finance initiatives (PFIs), introduced in the 1990s, were a continuation of these reforms. In the defence sector, various reforms carried out prior to 1990s failed to completely remove cost and time overruns in defence projects. PFIs were introduced to further rectify the failures of previous reforms in the defence sector because they were purported to provide better value for money.

Defence PFIs are long-term agreements whereby the Ministry of Defence, MoD, contracts to purchase quality services on a long-term basis from the private sector (through the special purpose vehicle, SPV) in which the private sector provides all the finance required in constructing the asset that is used to provide the services. Value for money of PFIs is about economy, efficiency and effectiveness. The question, though is whether, Defence PFIs provide value for money as claimed by the MoD? The purpose of this thesis is to evaluate the effectiveness of three categories: 1) accommodation, 2) equipment and 3) training of Defence PFIs by assessing the financial robustness (over a six-year period) of the SPVs engaged in their delivery.

This research employs a multi-method methodological approach to gather data. Qualitative research methods were employed in exploring and understanding customer-supplier relationships and included, PPPs, PFIs in general (and Defence PFIs in particular), the public sector reforms that brought about private sector integration,

defence reforms, and Defence PFI policies. Quantitative research was used to collect and evaluate financial data on SPVs (used in Defence PFIs).

Research analysis provided mixed results regarding the financial robustness of SPVs employed in the delivery of Defence PFIs. The profit margins of SPVs involved in the delivery of Defence PFIs relating to the category of accommodation were the highest. This is followed by SPVs in the category of Defence equipment and then by SPVs in the category of Defence training. Interestingly, the majority of SPVs involved in the delivery of Defence PFIs relating to accommodation have sound financial health. On the other hand, most SPVs relating to the other two categories have serious financial problems and therefore show cause for concern. Based on research findings of this study, a number of important policy recommendations are advanced to raise the effectiveness of PFIs in the defence sector and the wider public sector.

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## ABBREVIATIONS

| | |
|---|---|
| ACCA | Association of Chartered Certified Accounts |
| AME | Annually Managed Expenditure |
| ASB | Accounting Standards Board |
| BAFO | Best and Final Offer |
| CCT | Compulsory Competitive Tendering |
| CSR | Comprehensive Spending Review |
| DBFO | Design-Build-Finance-Operate |
| DEL | Departmental Expenditure Limit |
| DERA | Defence Evaluation and Research Agency |
| DfES | Department for Education and Skills |
| DLO | Defence Logistics Organisation |
| DPA | Defence Procurement Agency |
| DRPC | Defence Research Policy Committee |
| DTI | Department of Trade and Industry |
| EFAS | Centre for Environment, Fisheries and Aquacultures Science |
| EU | European Union |
| FRED | Financial Reporting Exposure Draft |
| FRS | Financial Reporting Standard |
| FSTA | Future Strategic Tanker Aircraft |
| GDP | Gross Domestic Product |
| GNP | Gross National Product |
| HC | House of Commons |
| HM | Her Majesty |
| ICAEW | Institute of Chartered Accountants in England and Wales |
| IFRS | International Financial Reporting Standards |
| IT | Information Technology |
| JSCSC | Joint Services Command and Staff College |
| LAFO | Last and Final Offer |
| MoD | Ministry of Defence |
| NAO | National Audit Office |
| NERA | National Economic Research Associates |

| | |
|---|---|
| NHS | National Health Service |
| NPV | Net Present Value |
| OfCom | Office of Communications |
| OfTEL | Office of Telecommunications |
| OGC | Office of Government Commerce |
| PAC | Public Accounts Committee |
| PBIT | Profit before Interest and Tax |
| PES | Public Expenditure Survey |
| PFI | Private Finance Initiative |
| PF2 | Private Finance 2 |
| PFU | Private Finance Unit |
| PPP | Public-Private Partnership |
| PSC | Public Sector Comparator |
| PSDR | Public Sector Discount Rate |
| R&D | Research and Development |
| RAB | Resource Accounting and Budgeting |
| ROCE | Return on Capital Employed |
| SPV | Special Purpose Vehicle |
| SSAP | Statement of Standard Accounting Practice |
| STPR | Social Time Preference Rate |
| TME | Total Managed Expenditure |
| TUPE | Transfer of Undertakings (protection of Employment) Regulations |
| UK | United Kingdom |
| USA | United States of America |
| VfM | Value for Money |

# CHAPTER ONE

## PRIVATE FINANCE INITIATIVES: TRANSFORMING THE UK PUBLIC SECTOR

### 1.0 Genesis of UK PFIs

Over the period 1970 to 2000, as a result of the development of the free-market economy across the globe, the public sector in the developed and emerging economies has witnessed a period of intense change. This has resulted in a dramatic shift in the characteristics and role of the state. In the UK, the public services have developed in a rather piece-meal fashion. During development, little attention has been paid to the economic and social functions of the provision or effectiveness of public services.[1] In the immediate aftermath of the Second World War, however, the UK government embarked on an extensive programme of nationalisation of key industries including coal, gas, electricity and shipbuilding industries.[2] It was believed that nationalisation would provide economic and social benefits and greater equality of wealth.

Thus, the responsibility for the direct provision of public infrastructure and services including health, transport and defence became that of the government alone. However, in the 1970s, the centralised system for the provision of public services was severely criticised for being wasteful, and subject to political intervention, thereby making them inefficient systems for delivering social services. To put matters right, the Thatcher government in the early 1980s initiated public sector reforms by following a radical programme of privatisation and deregulation[3]. The government recognised that the private sector was more efficient and less likely to be subject to political intervention and more importantly that the market rather than ministers are better judges of investment decisions.[4] In an attempt to improve efficiency in the delivery of public services by bringing competition into the picture, the government embarked on a spree of privatisation initiatives.

Since the early 1980s, over a hundred businesses have been transferred to the private sector through privatisation including British Telecom and virtually all state owned companies (such as British Petroleum, British Aerospace, British Gas, Rolls-Royce)

have been privatised. Privatisation was the first step towards integrating the private and public sectors. Although privatisation was met with severe criticism from the trade unions, opposition political parties, and some sections of the media, the firm resolve of the Conservative government of that era pushed these initiatives even more rigorously.[5] Where public services could not be privatised due to structural or political reasons, competitive tendering was used to introduce market-type mechanisms in the provision of public services.[6] The Local Government Planning and Land Act 1980 made it compulsory for direct labour organisations to contract out construction and maintenance of highways and buildings to the private sector through competitive tendering.[7] To add more impetus in a drive to increase the role of the private sector in providing public services, the Local Government Act 1988 made it mandatory for all local authorities to contract out some of their services through competitive tendering.[8]

Continued commitment to improve the efficiency of the public sector by successive governments in the 1980s helped in furthering these reforms. These public sector reforms advanced the relationship between the private sector and the state to such an extent that in 1989 the stringent Ryrie Rules that discouraged the use of privately financed public sector projects were relaxed.[9] This paved the way for the genesis of Private Finance Initiatives (PFIs) that were aimed at building closer and better partnerships between the state and the private sector whilst ensuring that value for taxpayers' money was achieved at all times.

This chapter introduces PFIs by defining what they are and then cites some statistics on public expenditure that created an environment conducive for the introduction of PFIs. It then sources examples of PFI solutions in other countries before narrowing down the focus to the use of PFIs in the UK Defence arena. The chapter then discusses the criticisms PFIs have attracted ever since their inception and unveils the government's arguments in pursuing PFI solutions. It spells out the study aim and objectives and emphasises the study value of this research. The conceptual model depicting the study methodology is laid out and explained before detailing the research methodology. The chapter ends with a road map outlining the structure of the rest of the thesis.

## 1.1 Defining PFIs

Having briefly traced back public sector reforms that culminated in PFIs in the early 1990s, it is vital to understand what a PFI is before scoping the role of PFIs in the UK public sector. Put simply, a PFI is a long-term agreement whereby the public sector contracts to purchase quality services on a long-term basis from the private sector; the private sector providing all the finance required in constructing the asset that is used to provide the services. A formal definition of a PFI is given by the International Project Finance Association, as:

*The financing of long-term infrastructure and public services based upon a non-recourse or limited recourse financial structure where project debt and equity used to finance the project are paid back from the cash flow generated by the project.*[10]

Under the most common form, PFIs are essentially a Design-Build-Finance-Operate (DBFO) system involving the provision of property-based services for long-term periods (usually 30-60 years) by a private sector consortium, called a Special Purpose Vehicle, SPV, to a public sector purchaser in return for periodic payments from the latter.[11] Each PFI contract is executed by a Special Purpose Vehicle (SPV) limited liability company, created just before signing the PFI contract. The SPV is the private sector party that contracts, in this case, with the MoD to deliver the PFI asset and related services. Most of the finance required to execute the PFI is lent by the banks to the SPV. Thus under PFIs, the private sector is not only involved in the design and construction of a capital asset but is also responsible for the management of assets ensuring quality services are being provided. The unique characteristic of a PFI is the use of private finance. The private sector alone bears the responsibility of raising and managing the finance for the entire project. As such the financial risk associated with the project is transferred entirely to the private sector. The transfer and in some cases the sharing of financial and other risks lies at the heart of a PFI arrangement.

But how different are PFIs from traditional contractual arrangements? The main difference between the two vehicles lies in the overall control of service provision.[12] Unlike a traditional procurement approach, the capital asset built under a PFI contract is

not owned by the public sector, at least not over the contract period. This has been the case with some PFIs. Moreover, the public sector only defines outputs but it is not actively engaged in the design of the asset constructed, thereby making it an output-based contract. This gives the private sector greater autonomy on the design of the asset.

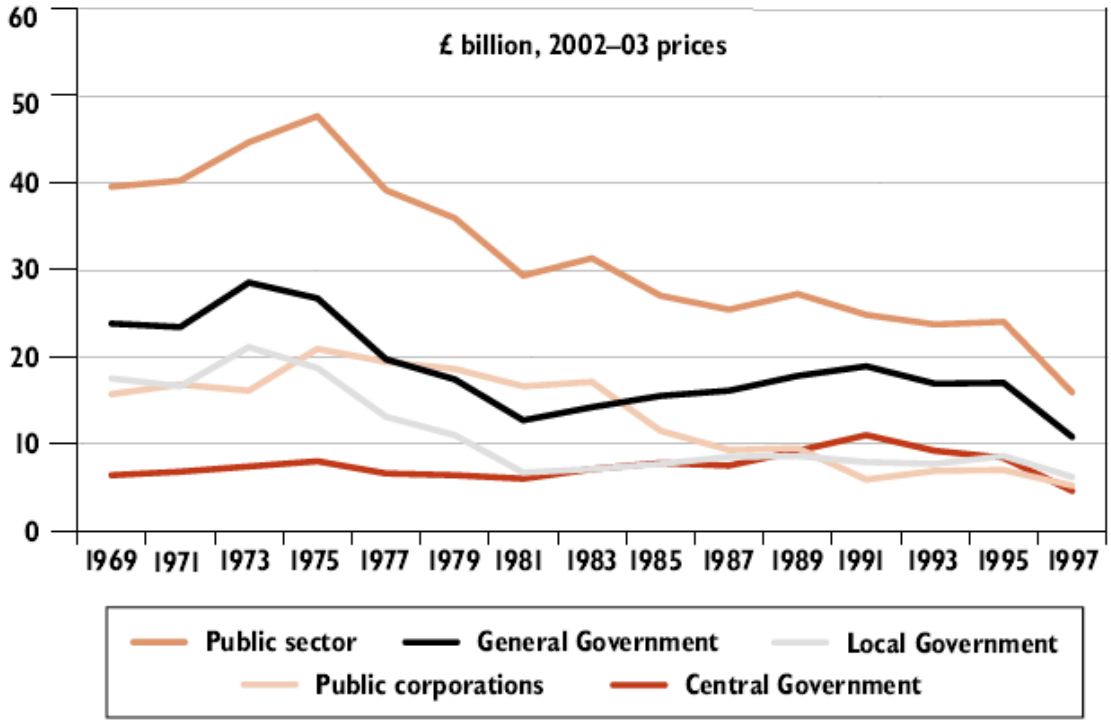
## 1.2 PFIs: The Second Advent …

When PFIs were launched in 1992, they received a sluggish response from both the state and private sector. Efforts were made by the government to identify potential PFI projects and encourage both the public and private sectors to participate in potential PFIs. The government's commitment to increasing participation in PFIs achieved a milestone when it was ruled that no capital project would be approved unless a PFI option for that project had been explored. In spite of these initiatives taken by the government, PFIs were still a rarity. When New Labour came to power in 1997, it found public services in a poor state. Public Sector Net Investment fell by an average of more than 15 per cent annually between 1991–92 and 1996–97, and in 1997, it stood at only a meagre £4.9 billion.[13] This figure represented only 0.6 per cent of GDP in that year – the lowest level for over a decade.[14] Investment in public services had been on a declining trend since the 1970s.[15] The massive under-investment (over the past two decades) in the public sector had resulted in falling standards in schools, hospitals and other public service assets. There was a backlog of repairs and maintenance in schools and hospitals (exceeding £10 billion) and the transport sector was seen to be deprived of much needed infrastructure.[16] Plans for new investment projects were often subject to flaws in the budgeting system that encouraged short termism and a bias against capital spending.

This fall in public sector investment translated into a striking decline in the general government capital expenditure since the start of the 1990s. Figure 1.1 illustrates the gross fixed capital formation, the acquisition less disposal of fixed assets, by government sector. Figure 1.1 shows the decline in public corporation and local government capital expenditure caused by the shrinkage of the public sector over the 1970s and 1980s. It also shows the downturn in capital investment between 1990 and 1997. In order to secure the long-term future of the public services, the Labour

Government significantly increased total investment flowing into them. Apart from just improving public services by investing more, more importantly, the government wanted to ensure that public services provided value for taxpayers' money so as to strengthen accountability, enabling those delivering public services to be more responsive to the needs of the communities they serve.

**Figure1. 1: Gross domestic fixed capital formation in real terms**

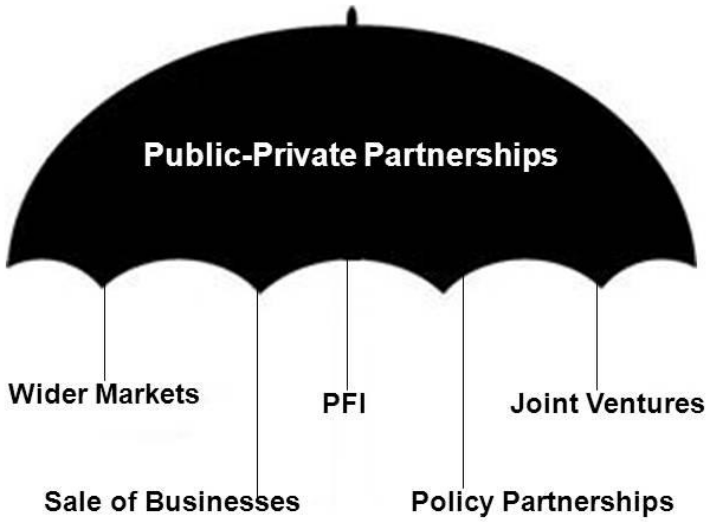



Source: HM Treasury. *PFI: Meeting the investment challenge* [online]. HM Treasury, 2003. Available at http://www.hm-treasury.gov.uk/media/F/7/PFI_604a.pdf [Accessed 5th March 2008].

To this effect, the government embarked on an ambitious programme to improve the quality of public services through higher standards in public services delivery. By the end of 2005-06, Public Sector Net Investment had reached 2.1 per cent of GDP. This had more than trebled since 1997 as a proportion of GDP, and funding sustained investment in the infrastructure of public services. Government sought to expand public infrastructure base through PFIs. The government revisited PFIs that had been launched by its predecessors. It re-launched them with a few changes under the banner of Public Private Partnerships (PPPs). Figure 1.2 illustrates how PPPs expanded the scope of

private sector engagement in the public sector domain. The underlying premise of PPPs has been the replacement of arm's length contractual arrangements between the state and the private sector with a closer and more mature partnering relationship.

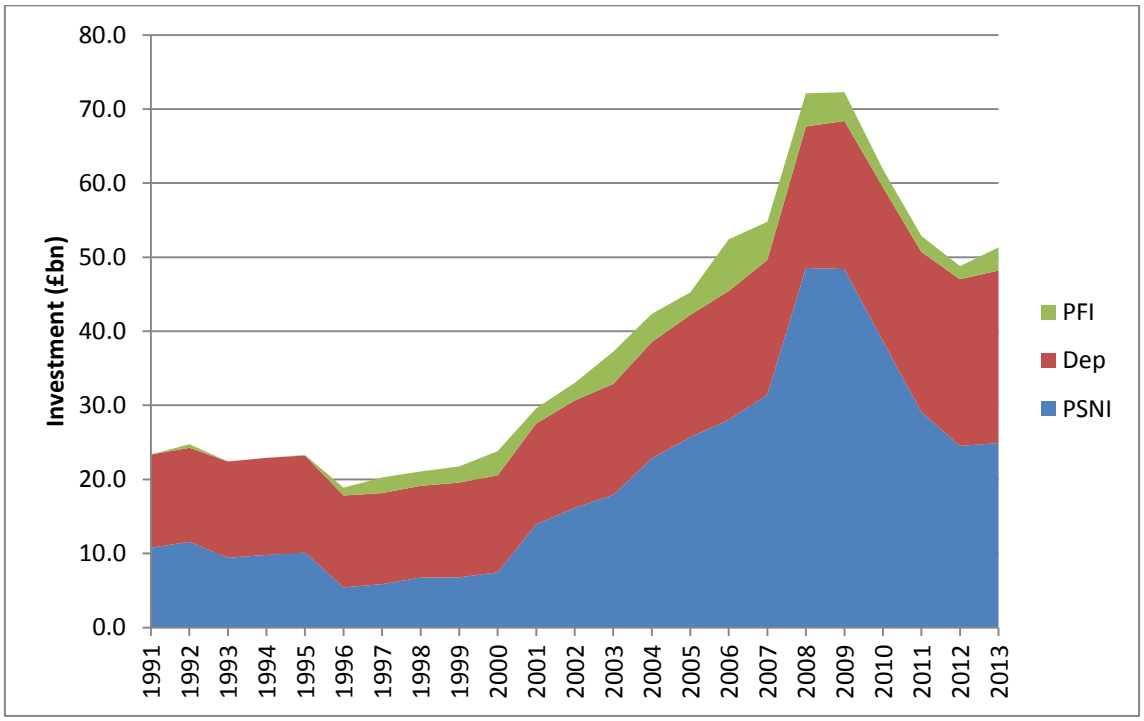
**Figure1. 2: Common types of PPPs**




Source: HM Treasury. *PFI: Meeting the investment challenge* [online]. HM Treasury, 2003. Available at http://www.hm-treasury.gov.uk/media/F/7/PFI_604a.pdf [Accessed 5th March 2008].

The increased participation of the private sector in delivering public services that had been initiated over two decades back was given a further boost through the launch of PPPs of which PFIs are a part. The Government only uses PFIs when it can demonstrate value for money. Not all investment is suitable for PFIs, and this is why they accounts for a limited proportion (4 -16%) of the Government's capital spend, as illustrated in Figure 1.3.[17]

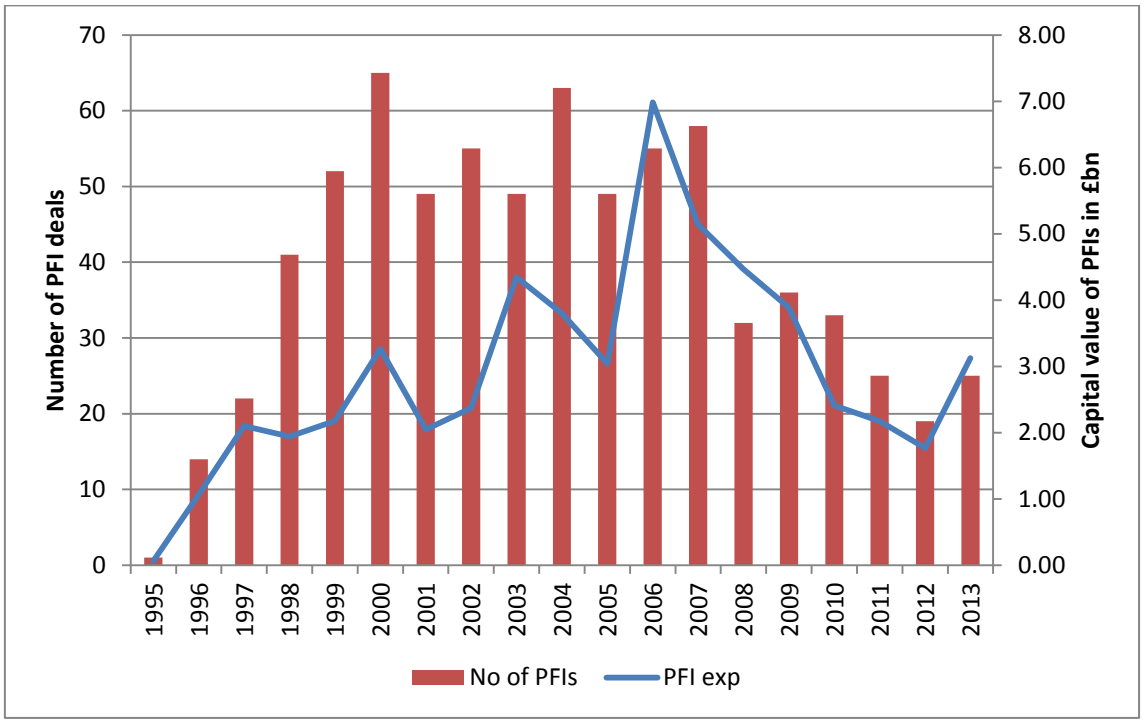
**Figure1. 3: Total investment in Public Services**




Source: Computed by author but taken from *GOV.UK* [online]. GOV.UK, 2013. Available at: https://www.gov.uk/government/publications/private-finance-initiative-projects-2013-summary-data [Accessed 1st October 2014] and *Institute for Fiscal Studies* [online]. Available at www.ifs.org.uk/ff/lr_spending.xls [Accessed 1st October 2014].

In 1995, the total capital value of PFI deals signed was just over £666 million.[18] However between 1997 and 2001 PFI investment averaged £2.6 billion a year. In terms of capital value, 21% of PFI projects have been signed by the Department of Health (until 2013).[19] This is followed by the Ministry of Defence, accounting for 17% and the Department for Education at just over 14%. Thus, in effect, the private sector has been encouraged to take a greater share in assuming responsibilities in the provision of public services.[20] In turn, the public sector has increasingly adopted the role of consumer and regulator of services.[21] The driving force behind increasingly utilising private sector expertise in delivering public services originated from the government's acknowledgement that the private sector must provide public services that offer better value for taxpayer's money. Figure 1.4 illustrates the number and value of PFI projects over the years.

**Figure1. 4: Number and value of PFI projects by year**




Source: Based on data from 1996 – 2013 taken from *GOV.UK* [online]. GOV.UK, 2013. Available at: https://www.gov.uk/government/publications/private-finance-initiative-projects-2013-summary-data [Accessed 1st October 2014].

## 1.3 PFIs: Global Footprint

The UK initiated and leads the rest of the world in the growth of PFIs. There are other countries that have embarked on PFI solutions and they are at different stages of development. One of these is Japan. After failures of the so called 'third sector' projects in the 1970s and 1980s in Japan, and compounded by tendencies by governments worldwide to increase private sector participation in the provision of public infrastructure and services, Japan began to adopt PFI solutions in the 1990s for public sector projects. Its commitment towards PFIs is evidenced by the introduction of the PFI Promotion Law that was enacted in 1999.[22] By the end of 2005, over 300 PFI projects were identified in areas covering schools, hospitals and government offices. By May 2005, 197 of these had either reached tendering stage or contract signature.[23]

In 2006, Malaysia under the Ninth Malaysian Plan stated that PFIs would be introduced to enhance efficiency in the public sector infrastructure and delivery service. The Malaysian government also envisaged increasing the role of the private sector in the

provision of public services to help drive growth in the construction industry. The corporate sector in Malaysia had 425 potential PFI projects in the pipeline; a potential PFI worth about £500 million under consideration by the Malaysian government.[24]

### 1.4 PFIs: Modernising the UK Defence Sector

Within the public sector, the defence department is the second largest user of PFIs.[25] In the UK, defence has traditionally been provided to a large extent by the government alone, with limited involvement of the private sector. This was chiefly because it was firmly believed that government must guarantee the supply and availability of defence capabilities and services as and when they are needed. The uncertainties associated with the private sector made it very unattractive to be given the responsibility for taking active part in the provision of defence capabilities. But since 1979, the role of government in public infrastructure investments, service delivery and direct employment reduced as privatisation and the contracting out of services to promote competition increased. Like other departments, the MoD has not been immune from this practice. The Levene reforms introduced in the early 1980s were the turning point in defence that paved the way for progressively increased engagement of the private sector in defence. Prior to these reforms, all the risks inherent in defence procurement were borne solely by the government.

These reforms revolutionised defence procurement in that some of the risks associated with defence procurement including research and development and financial risks were passed on to industry as defence contracts were opened to competition. The Levene reforms marked the beginning of a new era in defence procurement. As part of its efforts to improve efficiency and achieve better value for money, the MoD, in the 1980s, adopted the policy of contracting out support services (where economical) and by the early 1990s, the MoD began market testing selected in-house defence support functions against private sector bids.[26]

In 1992 when the Government launched the PFI initiative, the MoD explored the scope of utilising private finance for capital items that had traditionally been financed through the defence budget.[27] In 1996, the first defence PFI was signed for the White Fleet

vehicles (in Germany).[28] This PFI had a capital value of just over £100 million.[29] Although the first defence PFI contract was entered into in 1996, it was not until the New Labour Government was elected into office in 1997 that the popularity of defence PFIs accelerated.[30] To date, over 50 defence PFI contracts have been signed off, attracting private sector investment in excess of £5.7 billion.[31] In the wake of increased numbers of defence PFIs and in order to make the most out of PFIs, the MoD established the MoD Private Finance Unit (PFU) in November 2004 as a centre for guidance and performance assessment of PFIs.[32]

Over the last decade and a half, a number of Defence Policy Papers most notably the Defence Industry Policy (2002) and Defence Industrial Strategy (2005) have been published. There is one strong message that comes out from these latest papers – that the MoD is committed to and encourages more MoD-Industry integration. In an age when defence budgets are dwindling and defence equipment costs rising, the MoD claims that by engaging with industry through different forms of PPPs, most notably PFIs, the MoD would be able to deliver defence capabilities and services that offer better value for taxpayers' money.

### 1.5 PFIs Drawing Fire

PFIs have been operational in the UK for over two decades in the public sector in. Yet PFIs attract huge amounts of criticism from many corners. A variety of articles have been published damning the whole concept of the PFI procurement process. The Institute of Public Policy Research published a report in 2001 entitled "Building better Partnerships" in which it was emphatically stated that obtaining value for money has not been the major driving force of PFIs.[33] But instead, it was the political influences that had propelled the popularity of PFIs. The report does not focus exclusively on Defence PFIs, nonetheless, it stated many PFI projects had not delivered the promised innovation in design and organisation of services. This report by the Institute of Public Policy Research concluded by emphasising that weaknesses in PFIs could become a major roadblock in the pursuit of more PPPs.[34]

The National Audit Office (NAO) has been critical of individual PFI schemes and has published a number of reports to that effect. The Auditor-General of the NAO and his PFI team have examined and produced value for money reports on PFIs in the UK and has reportedly stated that the public sector comparator suffers from "spurious precision."[35] He further added that the value for money phenomenon was unclear and consisted of pseudo-scientific mumbo jumbo in that financial modelling takes over from thinking, making it so complicated that even experts fail to understand what is going on. To gain an insight into the truth about PFIs, the Association of Chartered Certified Accountants (ACCA) conducted a survey of UK PFIs where the respondents were ACCA members working in the public sector. The majority of the respondents rejected the idea that PFIs offer value for money solutions, giving PFIs a strong thumbs-down.[36]

A UNISON audit of PFIs was carried out in 2002 pointing out that based on evidence from operational PFI projects; PFI solutions are more expensive than their traditional counterpart.[37] This, according to the audit, has a twofold effect. The first is excessive cost to the public purse for projects that could have been provided more simply and cheaply using conventional methods of finance and procurement. The second and more deep-rooted problem with higher costs of PFIs is affordability. Value for money, it argues, does not necessarily equate to affordability. Thus a lot of PFI schemes according to UNISON become victims of the affordability crisis.

Under a PFI deal, private finance as opposed to public finance is employed. Critics argue that since the cost of private finance is significantly more than public finance, it is the higher borrowing costs that are partly responsible for driving up the costs of PFIs versus traditional procurement. Another factor contributing towards the higher costs of PFIs is the higher returns on PFI contracts that the private sector earns. Private firms make huge amounts of profits on PFIs and this in turn drains the public purse. For instance, the companies involved in the PPP for London underground were, in 2002, expected to make a return on investment to the tune of 20%.[38] Subsequently, however, one of them, Metronet, struggled with its finances and in July 2007, it went into administration.[39] The operations of Metronet were then taken over by Transport for London in May 2008. The other company in this PPP, Tube Lines, was also taken over

by Transport for London in May 2010.[40] The London Underground PPP was therefore a clear example of a PPP that failed, and necessarily reverted to public sector control.

The Chairman of the Common's Public Accounts Committee highlighted that changes to PFI contracts were inevitable.[41] The Financial Times reported that in addition to the higher initial cost of PFI solutions, millions of pounds of public money were going to waste because the private sector contractors are charging unjustifiably high fees for making changes to active PFIs. In support of the chairman's view, a 2008 report on operational PFIs published by the NAO concluded that public sector authorities were typically getting poor value for money when changes to existing contracts were made because of the prohibitively high fees charged by the private sector.[42]

The nature of most PFIs is such that an asset is constructed and utilised to offer services to the public sector procurement authority. The accounting treatment of PFI assets and associated liabilities has been a hotly debated topic ever since the genesis of PFIs. Under current accounting standards, the PFI asset and liability would be recorded in either the Government's books, or those of the private sector, but not both. In the UK, most of the transport PFIs are on Government balance sheets whilst many hospital PFIs and indeed some Defence PFIs are off the Government's books. Keeping PFIs off the books allows future PFI payments not to be shown as liabilities.

Nonetheless, it creates a deep-seated suspicion that the main reason for pursuing a PFI route is to disguise public sector debt. The accounting standards governing the accounting treatment of PFIs were changed in April 2008; the Government adopted the new International Financial Reporting Standard (IFRS) that deals with how PFI transactions have to be dealt with in the financial year 2008/09. However, the MoD has not fully implemented the new IFRS in respect of PFIs.[43] The retrospective and prospective effects of applying the new IFRS would be that a lot of off-balance sheet PFIs would be brought back onto the Government's books. This change in accounting for PFIs had far reaching consequences as the Labour Government broke its self-imposed rule that restricted public sector net debt to no more than 40% of GDP. Although the fiscal rules were changed by the Coalition Government in 2010, the

worrying aspect is that more debt on the Government's books will increase the perception of higher indebtedness leading to a fall in capital spending on public services.

### 1.6 PFIs: Failing the UK's Future?

The Labour Government (that came into office in 1997) is a staunch believer in the appropriateness of PFI solutions and their value for money advantages. As such, the Government has not signalled any prospective change in its stance with regards to PFI solutions. Recent statistics show that various departments and local governments have committed over £242 billion (in respect of PFIs whose capital value stands in excess of £54 billion) vis-à-vis unitary charges over the lifetime of PFI contracts up to 2050.[44] Furthermore, there are very few signs indicating that PFIs will be abandoned by government in the near future, not least because the Treasury has revealed that £3.5 billion worth of PFI contracts were in procurement as at March 2013.[45]

The Government has always strongly insisted that PFIs, where appropriate, provide value for money advantages over traditional procurement solutions. It argues that through PFIs, new services are more likely to start on time because the private sector does not get paid until service delivery (that meets certain quality standards) is initiated.[46] In support of this, an NAO study found that only 30% of non-PFI public construction projects were delivered on time. In contrast, 76% of PFI projects were delivered on time.[47]

The Government emphasises that PFIs allow risks of cost overruns to be passed on to the private sector; the public sector paying only for the services that are contracted for. Risk transfer is a fundamental feature of PFIs and one that helps the public sector to derive better value for the taxpayers' money. Moreover, the Government highlights the management skills, innovative design and due diligence (exercised by the lending institutions) that ensure services are delivered to meet the quality criteria. Efficiency and cost savings through economies of scale and third party income enjoyed by the private sector would eventually be passed across to the public sector through PFIs. Within the Defence arena, a PFI report published by the MoD Private Finance Unit in

2005 underscored the fact that the performance of 97% of Defence PFIs were satisfactory or better with the majority of them delivering value for money.[48]

## 1.7 Study Aim

The aim of this study is to evaluate the financial robustness of SPVs involved in the delivery of Defence PFIs.

### 1.7.1 Study Objectives

In order to realise the study's aim, a number of enabling objectives have been set:

I. Evaluate the different forms of customer-supplier relationships with an emphasis on partnering and PPPs.
II. Analyse in detail the structure of PFIs.
III. Examine the concept of value for money.
IV. Trace the major Government policies that have catalysed the integration of public and private sectors over the three decades from 1970 to 2000.
V. Analyse reforms in the UK Defence sector over the last three decades that have preceded the launch of Defence PFIs.
VI. Redefine financial terms and use them to compute key financial ratios that would be used to critically assess the financial robustness of SPVs involved in the delivery of Defence PFIs.
VII. Draw conclusions and propose policy recommendations towards seeking better effectiveness from Defence PFIs.

### 1.7.2 Study Value

The print media is replete with articles on PFIs; specifically, on the negative aspects of PFIs. A lot of academic articles have been published on PFIs in general, offering critiques on operational problems. However, PFIs have been in existence for over a decade and their use has spread to other parts of the world, but even so, there is an absence of a comprehensive study on PFIs in general and of Defence PFIs in particular. Kevin Owen is one of the first academics to conduct research on PFIs over a decade ago.[49] The focus of his study was non-Defence PFIs in the UK in which he analysed the various other alternatives to the PFI route. He concluded in his research that there were

no viable alternatives to PFIs. This research was carried out when PFIs were a relatively new procurement route in the public sector and the PFI market has evolved ever since then. Moreover, Owen's work did not focus on Defence PFIs.

Professor Keith Hartley has written on the subject of PFIs in general and argues that because private finance costs more than public finance, savings in the area of operations must outweigh the difference in the cost of finance for PFIs to be considered a cheaper option.[50] However, the articles written by Professor Hartley are based on generic research of PFIs, and, furthermore, do not focus on Defence PFIs. The Government published, "Public-Private Partnerships - the Government's approach" in 2000 in which it explained the umbrella-term PPPs.[51] It also looked at various types of PPPs including PFIs. This was followed by the publication in 2003 of "PFI: Meeting the Investment Challenge" in 2003 that focused on the way PFIs operate and the benefits that they can potentially deliver.[52] However, both these documents focused more on PFI policy of Government and less on the outcomes of operational PFIs. They failed to analyse the extent that value for money was being demonstrated by PFIs in general and Defence PFIs in particular.

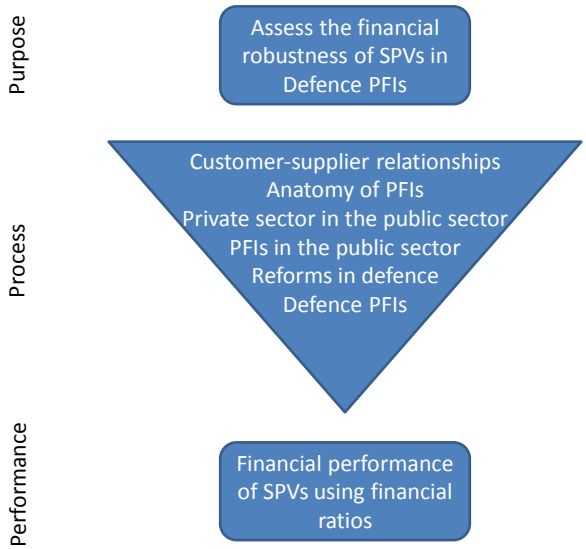
The NAO has had a dedicated team of experts to investigate and prepare value for money reports on PFIs. Although most of the PFIs covered in their reports are non-Defence PFIs, there are a handful of reports on some Defence PFIs like the PFI for the Joint Services Command and Staff College at Shrivenham and the PFI for Operation Telic. However, all these reports are focused on single PFIs; there is no single model that has been used to assess the extent that PFIs exhibit value for money characteristics. Moreover, these reports are deficient in academic literature on partnering and PFIs. The absence of a comprehensive research on the financial robustness of SPVs involved in the delivery of Defence PFIs is the main driver behind this study. The associated research will be the first of its kind that will analyse the financial robustness of the SPVs used in Defence PFIs by developing and applying a set of financial ratios.

### 1.7.3 Study Methodology

The approach the researcher has taken in order to study the financial robustness of SPVs engaged in the delivery of Defence PFIs is depicted in Figure 1.5. As mentioned earlier, PFIs in the UK public sector sit under the umbrella-term of public-private partnerships (PPPs). PPPs are an advanced form of customer-supplier relationship in that the private sector is the supplier and the government/public sector body is the customer. This study begins by drawing on the academic literature of different types and forms of customer-supplier relationships that have existed in the past; where relative strengths and weaknesses of the various types of customer-supplier relationships will be explored. This will help to give a better understanding of not only the evolution of such relationships over the past three or four decades but it would also provide a better perspective of how PFIs (within PPPs) fit in.

The genesis of PFIs will be traced back to the transformational changes that have occurred in customer-supplier relationships over the past; from arms-length transactions to partnering. Partnering has taken the customer-supplier relationship to an advanced stage. First the relatively newer concept of partnering will be explored and how it operates in the private sector within commercial supply chains. Attention will then be moved to partnering relationships between the public and private sectors that will be analysed in detail. This would then set the foundation for examining different partnering relationships that exist between public and private sectors, referred to as PPPs. The researcher intends to analyse the key features of the different types of PPPs before narrowing the focus to PFIs - one of the most popular types of PPPs.

**Figure1. 5: Study methodology**




Source: Author

A detailed examination of the structure of PFIs will be carried out to explore the different stakeholders involved, the mechanics of private finance and the way PFIs operate. Furthermore, the strengths and weaknesses of PFIs will be explored to understand suitability of PFIs and the limitations of using PFI solutions in the public sector. Taking the study a step further, it will then trace the significant milestones achieved in the process of modernising the UK public sector that culminated in PFIs and other vehicles of integration between the public and private sectors. More specifically, an evaluation into the development of government policies over the last three decades will be carried out. This will help to gain an understanding of actions and intentions of the governments that have been shaping the public sector and that led to the introduction of PFIs in the defence sector in particular.

As defence lies at the heart of this research, a discussion of reforms in the UK defence sector assists in providing the contextual backdrop to the focused PFI analysis. This would be achieved by tracing the various defence policies introduced and adopted over the last three decades. This would set the scene for understanding how and why Defence

PFIs were introduced and have since become so popular. Moreover, an analysis of the PFI guidelines that have been issued by the MoD Private Finance Unit will be carried out to understand how PFI application in the defence arena is governed. Analysis of the performance of Defence PFIs would be done using desk research. Each PFI contract is executed by a Special Purpose Vehicle (SPV). This is a limited liability company created just before signing the PFI contract. The SPV is the private sector party that contracts with the MoD to deliver the PFI asset and related services. Most of the finance required to execute the PFI is lent to the SPV by banks. Since any disruption in the delivery of a PFI contract affects the MoD's capabilities, it is important (from the MoD's side) that the SPV has the financial capability to deliver a contract without interruption.

Therefore, an in-depth examination of value for money in terms of effectiveness of SPVs in Defence PFIs will be carried out using financial ratio analysis of the SPVs engaged in the delivery of Defence PFIs.

Having laid down explicitly how the researcher aims to research Defence PFIs and their value for money in terms of effectiveness, it goes without saying that a robust research methodology is needed to allow the research aim and objective to be achieved.

## 1.8 Research: An Overarching View

### 1.8.1 Research Methodology

In this section, a brief explanation of the nature of research, the reasons for conducting research and the nature of research methodology will be offered. This will be followed by an explanation of research philosophy, process, typology and design. It will culminate with the research plan that is appropriate for this research vis-à-vis its aim and objectives.

Walliman[53] argues that the term 'research' used in everyday communication is misinterpreted in more than one way. First, research is not about just collecting facts or information without a clear purpose. It is more than just picking up facts by merely reading a handful of books or articles and interviewing a few people. He insists that

only systematic data collection that is carried out with a clear objective can be seen as research. Secondly, it would be erroneous to consider the reordering of facts or information without interpretation. Thus, while the gathering of data from a range of sources may be part of the research process, without interpretation, it is not research.

Saunders[54] defines research as something that is undertaken in order to find out things (indicating the presence of a clear purpose) systematically (signalling that the research is based on logical relationships rather than just beliefs) thereby increasing knowledge. This research is undertaken based on a combination of reasons. These include carrying out a review and synthesis of current literature on the subject of PFIs in general and Defence PFIs in particular. There is also a need to describe the MoD's PFI policy, explain the dynamics of Defence PFIs, and understand the role of various stakeholders in PFI contracts, the strength and weaknesses of PFI policy as well as the challenges faced by the MoD in ensuring that PFIs deliver successfully. Finally, there is a need to analyse the research problem and gain an understanding of whether or not SPVs used in delivering Defence PFIs are financially robust.

Research can be undertaken for two different purposes.[55] Research that is carried out with the intention to use the results to solve a problem at hand is called applied research. On the other hand, research done mainly to enhance the understanding of certain problems that occur is called pure research. Given this spectrum of research, the inherent nature of this research displays more signs of being pure research. Research methodology is concerned with the procedural framework within which the research is conducted.[56] It describes an approach to a problem that can be put into practice in a research programme.[57] Leedy[58] adds more clarity to the definition of research methodology by stating that the latter is an operational framework, where facts are placed so that their meaning is more vividly seen.

### 1.8.2 Research Philosophy

Easterby-Smith et al insist that failure to think through philosophical issues can seriously affect the quality of (management) research.[59] Moreover, they argue that philosophical factors affect the overall arrangements that ultimately enable satisfactory

outcomes from research activity.[60] Saunders views research philosophy as an overarching term that relates to the development of knowledge and the nature of knowledge.[61] To this extent, the particular research philosophy adopted has a bearing on the assumptions made about how the research arena is viewed. It is these assumptions that will dictate the research strategy and the research methods that will be used. He further contends that the choice of a particular research philosophy will be influenced by practical considerations but more importantly by the way in that the relationship between knowledge and the process by which it is generated is seen.

According to Saunders, there are three major ways of thinking about research philosophy - epistemology, ontology and axiology.[62] There are important differences between these three philosophies that influence the way in which research process is conceived. Epistemology refers to the acceptable knowledge in a field of study. The concern here is whether or not the social world should be examined according to the same principles, procedures and ethos as the world of natural sciences. Empirical research that is positivistic is related to natural sciences and phenomenological or interpretive research is related to the social sciences. Both can be approached in two ways: the positivistic and the phenomenological approaches.[63] The positivistic approach is one that is widely used in the natural or physical sciences areas of study.[64] Under this approach, the philosophical stance taken by the researcher is such that the latter is an objective analyst and interpreter of tangible social reality.[65] The underlying assumption in the positivistic approach is that the researcher is independent, and neither affects nor is affected by the subject of the research topic.

Independent causes that lead to the observed effects make evidence very crucial under the positivistic approach. Attempts are made to give explanations for the possible links and relationships that might exist between the different elements of the subject leading to some generalisations or theory. As such positivism is usually based on a quantitative approach that lends itself to the collection and statistical analysis of numerical data. This method focuses on measuring data using scale, frequency and range including surveys, experimental studies and cross-sectional studies. The positivistic approach involves adopting a deductive method whereby research moves from general ideas or

clear theoretical assertions to more specific situations prior to the collection of data. The theories assembled are analysed and the results are put forward based on the data collected. In short, under this approach, a hypothesis is deduced, tested and then an attempt is made to explain the relationship between the concerned variables.

In contrast, the phenomenological approach views research in the sense that human behaviour cannot be easily measured as in the natural or physical sciences. According to Cohen and Manion, the phenomenological approach advocates the study of direct experience that is taken at face value.[66] They further contend that it sees behaviour as dictated by the phenomena of experience rather than by external and objective described reality. The assumption under this approach is that people will often influence events by acting in unpredictable ways thereby upsetting any constructed rules of norms. In a direct contrast to the positivist, the phenomenologist does not take the world to consist of an objective reality but instead focuses on the primacy of subjective consciousness.[67] The interpretation of each situation is a function of the circumstances and the individuals involved. From the phenomenologist's eyes, the researcher is not independent of what is being researched but rather an intrinsic part of it.

Furthermore, the phenomenologist understands that the world is composed of a series of multiple realities, each of which is an artefact in its own right and needs to be understood and taken into consideration. Some have argued that the phenomenological approach to research is best suited to cope with the complexities of business and management.[68] The phenomenological approach would often involve qualitative research in that the less tangible aspects of research such as perception, commitment and trust would be examined.[69] As a result, interpreting and drawing inferences are more difficult to present. Case studies, interviews, action-research and grounded theory are used under this approach. It was stated earlier that research philosophy has a strong bearing on the research methodology adopted for a study. The inductive method is used in this approach resulting in research moving from a specific situation to making broad general theories and ideas. Information gathered from people is collated and the results analysed and presented, leading to new findings or otherwise.[70]

Additionally, instead of adopting the positivistic approach only, or the phenomenological approach only, a mixed method approach could be adopted. A mixed method approach is a combination of qualitative and quantitative research.[71] It offers the best of both worlds: the in-depth, contextualised and natural but more time consuming insights of qualitative research together with the more efficient but less compelling predictive power of quantitative research.[72] The main rationale behind a mixed method approach is that it provides a better understanding of research problems than either approach alone.

Ontology, on the other hand, deals with the nature of reality. This gives rise to the assumptions about the way the world operates. The ontological approach is two pronged: objectivism and subjectivism.[73] Objectivism portrays that social phenomenon and their interpretations exist such that they are independent of social actors. On the other hand, subjectivism views that social phenomenon are generated from perceptions and the consequent actions of the social actors. In addition, this is not a static, but rather a continual, process of social interaction where these social phenomenon are in a constant state of revision.

Finally, axiology is a branch of philosophy that studies judgements about the role of values.[74] Saunders et al cite Heron who argues that the values of a researcher are the guiding reason for his actions.[75] He further argues that researchers demonstrate their axiological skills by being able to articulate their values as a basis for making judgements about what research they are conducting and how they would go about it. A researcher's choice of one research topic rather than another signifies that one is more important than the other.

In conceiving and adopting a research philosophy, a mixed-methods approach will be adopted. In the absence of a comprehensive study on the financial robustness of SPVs involved in the delivery of Defence PFIs, qualitative research was employed in exploring and understanding customer-supplier relationships, PPPs, PFIs in general (and Defence PFIs in particular), public sector reforms that brought about more private sector

integration, defence reforms, and Defence PFI policies. Quantitative research was used to collect and evaluate financial data on SPVs (used in Defence PFIs).

### 1.8.3 Research Typology

Based on the nature and characteristics of the research problem, there can be several research types such as exploratory, descriptive, analytical and predictive methods. An exploratory research study is usually undertaken when there is very little information available about the situation at hand or about how similar research problems have been solved.[76] Thus an exploratory research is invaluable for finding out what is happening; to seek new insights and to assess phenomenon in a new light.[77] In essence, exploratory studies are carried out to better comprehend the nature of the problem; they aim to look for patterns and a hypothesis that could be tested forming the basis for further research.

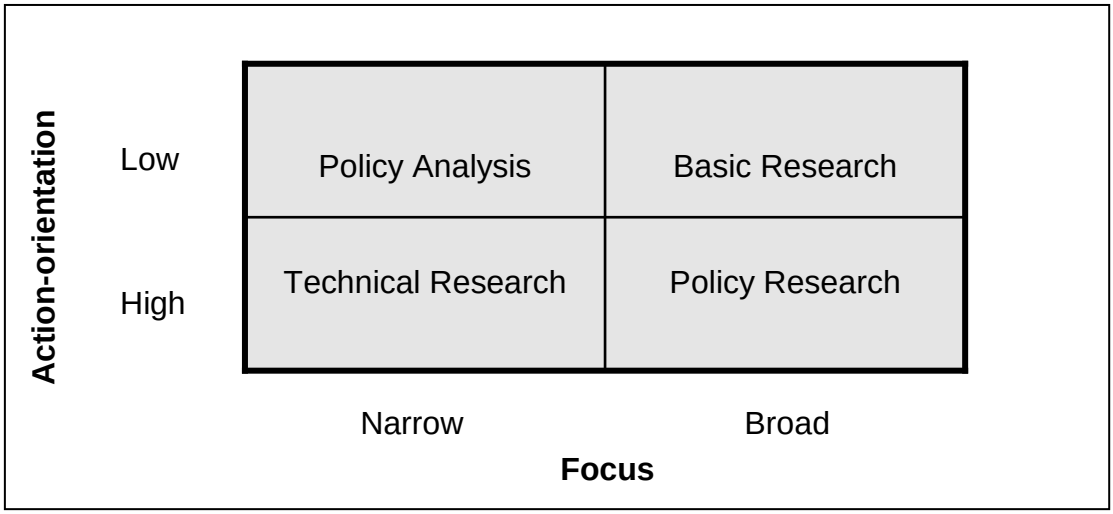
The objective of descriptive research is to ascertain and describe the characteristics of the variables of interest in a situation.[78] Robson asserts that descriptive studies are used to portray an accurate profile of persons, events or situations.[79] The emphasis in an analytical study is on studying a situation in order to explain the possible relationships between the different variables.[80] It often extends the descriptive approach to explain why something is happening. Predictive research attempts to speculate future possibilities. This speculation is founded on the analysis of available evidence of cause and effect. This research will utilise a combination of all of the above mentioned research types.

Where an approach to research is taken that is related to a firm, it is termed as management research but when the actions of government have an implication on the firm, it becomes a policy research.[81] According to Majchrzak, policy research can be looked at from two angles: action orientation and focus.[82] Action orientation with respect to policy-oriented research is concerned with the utility of results of research. The focus angle provides for research that is specifically or broadly defined.

Based on these two axes, Majchrzak has classified policy research into four main groups – basic policy research, policy analysis, technical analysis and policy research as

depicted in Figure 1.6. Basic policy research relates to the traditional academic research that is carried out on fundamental social problems. Inherently, it has more of a theoretical touch with very little possibility for direct impact on policy decisions and thus it scores low on action-orientation. Policy analysis is simply a study of the policy making process. It is where the researcher is interested in the way by which policies are adopted and their effects. As such its focus is narrow and specific but with low action-orientation. Technical research focuses on resolving a very specific and narrowly defined problem that might have a higher degree of impact on policy decisions. For instance the impact of having PFI schools off the Government's books.

**Figure1. 6: Typology of research**




Source**:** Majchrzak, *Methods for Policy Research*, Sage Publication**,** London, 1984, p.13.

Policy research has a broad focus with a high degree of action orientation. For example, a study on the value for money characteristics of Defence PFIs may fall under this category. This research could be classified a policy-oriented research that has a broad focus covering Defence PFIs in general and a high action orientation as the findings of this research will be used to make policy recommendations that could be exercised by the Government to enable the use of Defence PFIs more effectively. However, this research will also analyse more specific issues surrounding the use of Defence PFI solutions and as such it has the capacity to provide policymakers the required

information to find solutions to complex issues. Hence, this research will be a blend of both technical and policy research.

This research will be exploratory as there is an absence of a comprehensive study on the financial robustness of SPVs involved in Defence PFIs. The descriptive approach will be used to collect, analyse and summarise data on the scope of Defence PFIs, their contract value and contract duration, PFI policy and implementation procedures. The analytical approach in this research will consist of analysing the data to evaluate objectively the financial robustness of the SPVs involved in the delivery of Defence PFIs. Finally, a predictive approach will be taken to contemplate the outcome of the studies and make policy recommendations based on the analysis of the data that are available.

## 1.9 Research Design

### 1.9.1 Multi-Method Strategy

The inherent nature of the current research lends itself to in-depth research to be carried out using all of the approaches mentioned above. Case studies are necessary where it is needed to understand and explain a complex phenomenon. They allow the researcher to gain a more holistic view of the subject matter being studied. According to Bell[83], a case study approach focuses the study around a specific instance or event. Yin defines a case study as an empirical enquiry that investigates a contemporary phenomenon where multiple sources of evidence are used.[84]

Defence PFIs can be grouped into four categories: accommodation, equipment, training and other.[85] However the scope of this research is limited to the first three categories because in the last category, the Defence PFIs are all unique. Therefore, they cannot be studied as a category. Thus, three main categories of Defence PFIs were studied. Additionally eight sub-case studies were created under the accommodation case study, five sub-case studies under the equipment case study and eight sub-case studies under the training case study. These case studies and sub-case studies covered all operational Defence PFIs that have been in operation for more than six years from 2004 (this is the length of time over which financial ratios analysis is meaningful) and have had their

SPVs report their financial statements under UK Accounting rules operating using an SPV.

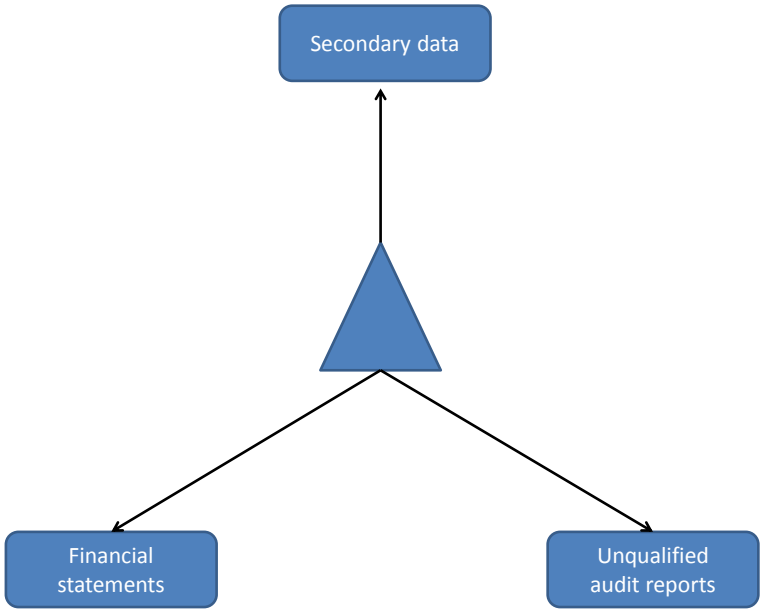
Each of these case studies and sub-case studies involved a narrative description of the Defence PFI being studied in such a way that it represents findings in their own right. Additionally, these case studies and sub-case studies contained detailed financial ratio analysis of the SPVs involved in the delivery of Defence PFIs. To ensure the creation of successful case studies, evidence for each case study was collected from a number of sources including documents or reports on the PFI and secondary sources of data.

With a case study approach adopted, a multiple research method would most likely be the best to avoid any bias in results. Such an approach is termed as one that is multi-method/multi-trait or convergent validation, otherwise known as the Triangulation method.[86] The triangulation method uses a mix of both qualitative and quantitative data collection techniques and analysis procedure to capture a sense of reality.[87] It is distinct from the multi-method approach that refers to employing more than one data collection technique but restricting it to either quantitative or qualitative approach. Saunders defines the term triangulation as obtaining evidence from multiple sources; primary and secondary data using both qualitative and quantitative techniques and procedures to ensure that a non-biased view is obtained.[88]

In business and management research, triangulation refers to evidence that is gathered from multiple sources to avoid bias that could have crept in if it were from one informant alone. In principle, triangulation attempts to substantiate any evidence that is given either by speaking to another person or by documentary analysis.[89] The data collection for the present study comprises of a combination of both qualitative and quantitative methods such as case study analysis, financial reports, documents, books, archival material, journals and newspaper extracts. Such a combination helps the researcher to be equipped with solid data to work on. Moreover, it also enhances the credibility of research results. Gathering different kinds of data helps to improve the researcher's judgement on the same phenomenon. To provide a fuller and holistic view of the unit under study, the triangulation method is employed.

However, the researcher can foresee that sourcing evidence from multiple avenues could present some disadvantages. The act of combining both qualitative and quantitative approaches would require the researcher to spend time in order to fully comprehend both these methods. Furthermore, the researcher would have to be seasoned in employing the full variety of data collection techniques. This is because if by any means, a technique is used incorrectly, the opportunity to address broader issues might be lost.[90] Additionally, it can be easily envisaged that data collection through multiple sources could be anticipated to be more expensive with respect to both time and cost as compared to the gathering of data from only one source.[91] The triangulation methodology employed for this research is illustrated in Figure 1.7.

**Figure1. 7: Triangulation methodology**




Source: Author

### 1.9.2 Secondary Data

The preliminary research design used in this research was based on secondary data that essentially comprises of administrative records and documents as the principal source of data.[92] Documentary secondary data comprised of organisational records including emails, letters and newspaper cuttings. The secondary data for this research were

collected from the Ministry of Defence website, the HM Treasury's website. Data were also obtained from published reports on PFIs by the National Audit Office and other government publications including the Strategic Defence review 2005, MoD PFI policy, Defence Industrial Strategy. Secondary data were also sourced through HM treasury publications with regards to PFIs such as Standardisation of PFI contracts, PFI meeting the Investment challenge. Non-governmental reports including the publications by UNISON on PFIs, ACCA and PwC were sourced as well.

### 1.9.3 Financial Statements

The financial statements of the SPVs that are engaged in delivery of Defence PFIs were used. The information from these financial statements is primary data. It cannot be classed as secondary data because had the data been collected by the author, it would have been the same as that shown in the financial statements.

The exclusive use of secondary data as the basis for the PhD thesis in the field of finance is not new. It has been used by a number of students from a variety of universities. For example, Siganos, from the University of Stirling, based his PhD thesis (on the momentum effect on the London stock exchange). This data were sourced from the London Share Price Database, from Datastream (provided by Thomson Reuters) as well as from the Stock Exchange Electronic Trading System (SETS).[93] Additionally, Sager, from the University of Warwick, used data from three sources as a basis for his PhD thesis (on exchange rate modelling and forecasting): Reuters D2000-1 interdealer service, JPMorgan Chase and Royal Bank of Scotland.[94] Mokoaleli-Mokoteli, from Cranfield University, based his PhD thesis (On analysts' bias? An analysis of analysts' stock recommendations for stocks that perform contrary to expectations) on data sourced from Institutional Brokers' Estimate System, a service provided by Thomson Reuters.[95] In the above three cases, no primary source data (such as interviews and questionnaires) were utilised.

### 1.9.4 Unqualified audit reports

In the field of auditing of financial statements of companies, auditors are an independent body whose job is to thoroughly check whether or not the financial statements of

companies provide a true and fair view of the state of a company's affairs at a point in time (usually the last date of the financial year) and of its profit for a given year. Auditors in the UK are regulated by the Financial Reporting Council and various professional accountancy and audit bodies such as the Association of Chartered Certified Accountants (ACCA) and Institute of Chartered Accountants In England and Wales (ICAEW). Due to this regulation, if an auditor were to perform its duties dishonestly, it could not only lose its license but could be fined as well. Therefore, auditors' reports give credence to the figures shown in the financial statements.

If auditors issue qualified audit reports in respect of any SPV, then in that case the data from the financial statement of that SPV would be doubtful and will not be used for this research. The financial statements of all the SPVs used in this research received unqualified audit reports. This means that they were audited and given a clean bill of health by the independent bodies of auditors. Consequently, the data shown in the financial statements of the SPVs was clear of inaccuracies and biases.

### 1.9.5 Research Plan

This section describes the research plan based on the study methodology that has been developed in the previous section. The first phase of this entailed taking a critical review of the secondary literature to establish the theoretical foundations as well as any gaps in literature that might exist. A critical evaluation of secondary sources of data including books, journal articles, newspaper cuttings, specialist reports and published Government reports was undertaken. The literature-base was used to explore the theories relating to customer-supplier relationships, partnering, transformational changes in the UK defence industry and the evolution of PFIs in the public sector in general and in the defence sector in particular.

### 1.9.6 Data Access

Access to the financial statements of SPVs was provided through Companies House using the services of FAME and Company Searches Made Simple. These financial statements were digital copies of the originals that were filed at the Companies House on an annual basis.

## 1.10 Data Analysis

### 1.10.1 Quantitative Data

Quantitative data from the financial statements of SPVs involved in the delivery of Defence PFIs were analysed through the use of financial ratios covering three areas: profitability, liquidity and gearing since these are sufficient to assess the financial robustness of SPVs.[96] Microsoft Excel was used to compute the financial ratios.

## 1.11 Research Reliability

To ensure that findings from this research are credible, data has to be reliable. Reliability is the extent to which the data collection techniques and analysis will yield findings that are consistent.[97] The triangulation method that was employed increased reliability as data was gathered from different sources thereby reinforcing research results. The reliability of data used in this research was enhanced by the clean bill of health given by auditors with respect to the financial statements of SPVs involved in the delivery of Defence PFIs.

## 1.12 Research Values

The researcher possesses personal beliefs or feelings that could have a bearing on the choice of research area, the nature of the research question, the design of research, data collection techniques, data analysis and the interpretation of data throughout the research process. The role that the researcher's values play in all stages of the research process is highly important as it directly affects the credibility of the research results.[98] The possibility that bias could feature in the entire research process is controlled as the data (from the unqualified financial statements) used for this research has already been cleared of bias because, the financial statements used in this research have been declared unqualified by the independent bodies of auditors.

## 1.13 Research Ethics

In the context of research, Saunders defines ethics as the appropriateness of the researcher's behaviour with respect to the rights of people who become the subject of this research or are affected by it.[99] Research ethics is concerned with how the research topic and research design are formulated. It also relates to questions about how data are

collected, analysed and used to draw meaningful conclusions from it. The researcher is conscious of the fact that it is not only the research has to be methodologically sound but also that the whole process of research should be carried out in a moral and responsible way.

At all points of research, the author will look to ensure that research ethics are adhered to. To this effect, during the process of data collection, the author would strictly focus on the aim of the research project and would not compromise the data in any way. When reporting the findings, attempts would be made to ensure that data are not misrepresented at all. As no interviews were conducted, there is no need for this thesis to be submitted to the Cranfield University Ethics Committee.

## 1.14 Chapter Outline

This research will be spread across six chapters. This chapter sets the scene for the entire research by introducing PFIs and their increased importance in public-private partnerships. Chapter two will scrutinise and critique the literature on customer-supplier relationships and partnering. It will also provide an insight into public-private partnerships and PFIs. It will discuss the main parties engaged in a PFI deal and how risks associated in PFIs is managed amongst different parties. A literature review of the value for money concept will also be carried out in this chapter. The third chapter will state why major reforms in the UK public sector occurred, leading to the genesis of PFIs. This chapter will also analyse the government's policies on PFIs. Chapter four will narrow down this research to PFIs in the UK Defence sector. It will trace the origins of PFIs in Defence. It will also discuss the scope, characteristics and importance of PFIs in Defence. Chapter five will provide the focused analysis of the PFI data. SPVs involved in the delivery of Defence PFIs will be subject to detailed financial ratio analysis to assess financial robustness. The results of this analysis will form the basis of the next chapter where conclusions will be drawn, policy recommendations provided and suggestions for future research offered.

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# CHAPTER 2

## PARTNERING, PUBLIC PRIVATE PARTNERSHIPS AND PRIVATE FINANCE INITIATIVES

### 2.0 Introduction

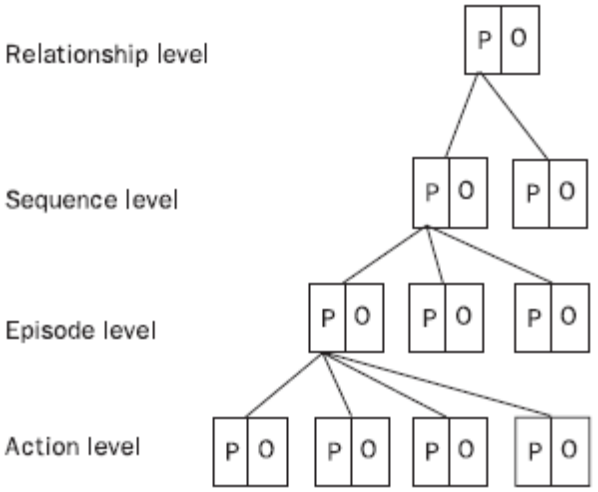
Synergies can be enjoyed when two entities team up and work together. The business world, where customer-supplier relationships were at arms-length, has awakened to the benefits of fostering closer relationships between customers and suppliers. It is gravitating to develop better and closer relationships between parties through partnering. Likewise, public and private sectors have only recently (i.e. since the 1990s) been involved in working together in long-term partnership arrangements. This chapter draws on current literature on different types of relationships between parties culminating in partnering relationships. Attention is then focussed on the nature of public and private sectors before analysing public-private partnerships (PPPs). The main thrust of this chapter revolves around PFIs: one of many (and by far one of the most popular) types of PPPs. An in-depth analysis of what PFIs are, how they function and what their objectives are, will be the main areas of analysis for the greater part of this chapter. The chapter ends with an analysis of the concept of value for money - the overarching objective of PFIs.

### 2.1 Spectrum of Customer-Supplier Relationships

In the 21st century where the trend has been gravitating towards focusing on the requirements of the end customer thereby creating highly competitive environments, the importance of relationships between customers and suppliers cannot be ignored. In support of this view, Pender states that the value of building effective and responsive relationships between suppliers and customers has been more crucial to the survival of the free-market enterprise than ever before in the history of man's industrial endeavours.[1] More specifically, when customers and suppliers work together in a close relationship, they can help drive down the costs, improve quality and speedily deliver products to the market much more effectively than if these same people were to work as rivals.[2]

What are relationships and how are they formed? Amongst other things, a relationship is defined as the nature of the connection or association between two or more people or groups.[3] Moreover, it also encompasses the behaviour of the different people or groups towards each other. How does this association or connection between two or more individuals or firms initiate? Is it a phenomenon that occurs overnight or does it manifest itself gradually? Holmlund describes the formation of relationships as a process.[4] According to Holmlund, interactions between two or more firms can be seen to take place in a hierarchy of four levels.[5] At each level, the interactions comprise of two elements: the processes (what is done) and outcomes (the consequences of what is done). Each higher level encompasses the lower one. These four levels are shown in Figure 2.1.

**Figure 2. 1: Types of interactions between two and more firms**




Source: Lysons, K. and Gillingham, M. Purchasing and Supply Chain management, 2003. 6th edition. Prentice Hall. Page 373.

At the action level, interactions between firms comprise unrelated individual activities such as a phone call or a supplier visit. Groups of interrelated actions such as negotiating or a shipping process constitutes episodes. But when interactions between firms become more extensive (as in contracting), the parties are seen to have advanced to the sequence level. Relationship is the overarching term comprising of all the sequences that in turn comprises of all the related episodes and actions that take place

between two firms. Moreover, Holmlund emphasises that the completion of a sequence is assessed by both parties and if one or both of them are unhappy, further sequences might not occur thereby inhibiting the formation of a relationship.[6] Therefore the completion of sequences plays a pivotal role in the formation of a relationship. The partner base is the relationship portfolio of a particular firm.

There are several factors, both internal and external to organisations that have an impact on the type of relationship that exists between an organisation and its suppliers.[7] The external factors impacting on the type of customer-supplier relationships an organisation maintains comprise of the environmental factors and the features specific to the industry in which the organisation operates. On the other hand, the internal factors that affect how customer-supplier relationships are shaped for an organisation include interpersonal factors, the nature of the organisation and other factors internal to the organisation such as the objects being procured and the frequency of transactions. According to Dyer et al, when all these factors (internal and external) and their relative importance are taken into account, customer-supplier relationships can be plotted with adversarial relationships on one extreme of the spectrum and long-term strategic partnerships on the other extreme.[8] In complementing the structure of this spectrum of customer-supplier relationships, Humphreys et al writes that there are two major types of customer-supplier relationships as defined by most of the researchers: adversarial competitive and collaborative partnership as shown in Figure 2.2.[9]

**Figure 2. 2: Spectrum of customer-supplier relationships**


Source: Author and adapted from Humphreys, P., Shiu, W. K., and Lo, V. H. Y. Buyer-supplier relationship: perspectives between Hong Kong and the United Kingdom. *Journal of Materials Processing Technology*, 2003. No.138, 2003 pp 236-242.

### 2.1.1 Adversarial Relationships

The concept of purchasing that has existed traditionally was one that was considered to be a clerical function in which the relationship between the suppliers and customers was

seen to be adversarial. The latter is characterised as being of one where the interaction between the suppliers and customers is at arm's length. Shapiro argues that the primary goal of the traditional adversarial approach to purchasing is to minimise cost of the goods and services being purchased.[10] As such the buyers and suppliers act independently and the relationship is conducted through the marketplace with price of the goods/services being procured being fundamental. The communications between the customers and suppliers is based on formal paperwork with very little personal contact. Due to the lack of trust between the parties, adversarial relationships between customers and suppliers promote an attitude of rivalry between the two parties. As such these relationships are seen to be very aggressive in nature and their fundamental focus is on price. As a result, adversarial relationships lead to win-lose solutions for the parties involved.

The fear of losing out in such a relationship encourages a culture where one party tries to over-power and leverage-out the other. Moreover, this might be done at the expense of the mutual benefits of both the parties. Due to the lack of trust between the parties, there is a general reluctance to share information and thus there is very little engagement of the customers and suppliers in any design activities that may be incidental to the procurement being made. It does not come as a surprise that adversarial relationships are essentially a short-term competitive sourcing approach. When such relationships are brought into effect, the customer engages a large number of suppliers to source its goods/services and as such attempts to gain higher bargaining power compared to that of the suppliers.

In such relationships, there is an underlying assumption by the buyers that there are no differences in the suppliers' abilities to offer value added services, technological edge, process innovations or any other means of gaining competitive advantage. As a result, one of the serious drawbacks of adversarial relationships is that buyers do not fully utilise the total potential of the suppliers' abilities. The inherent nature of these adversarial relationships allows them to be beneficial in situations where the transactions involve the supply of basic off-the shelf goods and services. Williamson and Dyer[11] advocate that adversarial supplier relationships work best when the focus is

on minimising transactional costs and where the goods and services being procured are very basic in nature. Moreover, such relationships are better suited to situations where both transaction uncertainty and transaction frequency are low.[12]

On the other side of the coin, adversarial relationships allow one party to exercise leverage on the other that could turn out to be detrimental for both parties. It is reported that General Motors in America used draconian methods because of its position to achieve price cuts. [13] Although significant savings were realised, bringing on new suppliers who offered lower prices generated quality problems and production delays. Up until two to three decades ago, obtaining the lowest price was the only criterion to judge performance and for this reason adversarial relationships were the norm between customers and suppliers.

### 2.1.2 Partnership Relationships

However, as the trends in competition moved away from being price-based, customers started looking at other performance criteria such as quality and delivery of goods and services from suppliers.[14] Furthermore, Morgan observed that there was a tendency amongst customers to shift from an arm's length relationship towards more collaborative arrangements such as partnerships with suppliers.[15] Interest in partnerships with suppliers grew as customers realised the need to establish long-term approaches to customer-supplier relationships.[16]

The partnering relationship has been defined by Partnership Sourcing Ltd as "a commitment to both customers and suppliers, regardless of size, to a long-term relationship based on clear, mutually agreed objectives to strive for world class capability."[17] Partnering brings about a shift from the pressures exerted by larger customers on small/medium suppliers that exist under adversarial relationships. Whereas under the adversarial relationships where emphasis was on trying to obtain lowest price, in partnerships the focus is broadened to the total acquisition cost including indirect and hidden costs such as loss of customer goodwill through late delivery. Lowest price is never the only consideration in partnerships.

Whereas customers and suppliers act as rivals to each other (which is further augmented by their lack of trust in each other) in adversarial relationships, there is cooperation and a community of interest (including open sharing of information) between buyers and sellers leading to greater amounts of trust between the two parties. The win-lose approach in adversarial relationships is transformed into a win-win outcome through the increased cooperation between the parties. Partnering focuses on building long-term relationships with suppliers so as to involve them at the earliest possible stage of procurement thereby allowing any potential problems to be taken care of. This is in sharp contrast to the short-term approach that adversarial relationships promote thereby depriving both parties of any potential mutual gains.

Thus partnering relationships seek to transform the short-term nature of adversarial customer-supplier relationships that dwell on the use of higher bargaining power by one party to secure lower prices and improved delivery into long-term cooperation that is based on mutual trust in which quality, innovation and shared values compliment price-competitiveness.[18] Griffiths states that establishing partnerships between customers and suppliers could potentially not only help in driving down operating and production costs but could also bring about improvements in design, quality, delivery and completion times of outputs.[19] The Chartered Institute of Purchasing and Supply has identified a number of key drivers for establishing partnership relationships: drive for lower acquisition costs, reduced supplier base, concentration on core business and pressures to move towards lean supply.[20]

Partnership relationships offer cost advantages to both suppliers and customers through cooperative cost reduction programmes such as electronic data interchange. The participation of both customers and suppliers in the design stage helps to take care of potential problems thereby reducing future costs. Both customers and suppliers can keep lower levels of inventory (and therefore lower inventory costs) through exchange of information that helps better planning of their activities. Moreover, both customers and suppliers can enjoy strategic advantage by having access to each other's technology and sharing problem solving and management. Additionally, customers in partnerships can benefit through reduced supplier base and assured supplies through long-term

agreements. The long-term nature of these relationships also allows customers to plan improvements over the long run rather than negotiating short-term benefits. From the suppliers angle, the long-term nature of these relationships allow them to have a stable and more secure income source and the ability to deliver their best to each of their customers.

Table 2.1 shows the results of a survey on the benefits of partnering that was conducted by Partnership Sourcing Ltd reported the following benefits of partnering:

**Table 2. 1: Benefits of partnering**

| | % |
|---|---|
| Reduced cost | 75.5 |
| Reduced inventory | 72.9 |
| Increased quality | 70.3 |
| Enhanced security of supply | 69.4 |
| Reduced product development times | 58.4 |

Source: Lysons, K. and Gillingham, M. Purchasing and Supply Chain management, 6th edition. Prentice Hall, 2003, Page 368.

In contrast to the type of goods and services that are best suited in adversarial relationships, Partnership Sourcing Ltd has identified the types of markets for which partnering relationships are suitable.[21] These include markets that have few reliable suppliers and where the closer links with the existing suppliers would help to improve supply security and markets where technology and legislation change very fast and knowing those changes quickly is crucial. Another area identified by Partnership Sourcing Ltd is where goods and services being procured involve technically advanced supplies where the cost of switching is significant.[22] Additionally, high risk items and services that are vital to the operation of an organisation irrespective of their monetary value are another suitable area where partnership relationships can be established.

Purchasing literature is abundant with issues that are of prime importance in establishing successful partnerships. Factors that enable partnerships to be successful can be classed into two categories: intangible and tangible factors.[23] The tangible factors include adopting total quality management, joint research and development and electronic data interchange. The intangible factors include the commitment of senior management of the customer and supplier organisations, flexibility to accommodate any necessary changes, a high degree of patience on the part of both parties and trust between the two sides.

The most important factor in building successful customer-supplier partnerships is trust.[24] Morgan and Hunt have indicated that without trust there can be no partnership.[25] Ganesan adds that the long-term orientation in a buyer-seller partnering relationship is a function of the mutual dependence and the degree to which the partners trust each other.[26] It is important to understand that a partnering relationship is a long-term relationship that is deemed to operate under conditions of both prosperity and adversity and it goes without saying that it is bound to change with time. Changes, when they occur in partnering relationships, can have a direct or indirect impact on the way in which one party perceives the other as being opportunistic and not demonstrating dynamism in their relationship.[27] In order to weed out any misconstrued perceptions that cause transactional costs to rise and dilute the winning edge of partnering relationship, it becomes ever so vital for partnering firms to trust each other.

What is trust? Literature is full of definitions of the term trust. Schurr and Ozanne write that trust is the belief that a party's word or promise is reliable and that a party will fulfil his/her obligations in an exchange relationship.[28] Anderson and Weitz define trust as one party's belief that its needs will be fulfilled in the future by actions undertaken by the other party.[29] Morgan and Hunt explain trust as existing when one party has confidence in an exchange partner's reliability and integrity.[30] Blois states that trust refers to when the one party makes itself vulnerable to the other party's behaviour.[31]Doney and Cannon define trust as the perceived credibility and benevolence of a target of trust.[32] It can be noted here that although these definitions differ from one another, the one common element is that trust is equated to belief. Whilst Schurr and

Ozanne base trust on the words and promise, according to Anderson and Weitz trust is about future actions. In more general terms, a practical definition of trust can be "trust is an expectancy of positive (or negative) outcomes that one can receive based on the expected actions of another party in an interaction that is characterised by uncertainty."[33]

Since the development of partnerships dwells on the amount of trust between the partners, it becomes all the more important to get an understanding of what factors lead to the development of an atmosphere of trust between customers and suppliers. Trust involves a calculative process of assessing the costs/rewards of the other party cheating or staying in the relationship.[34] Consequently, a party would be expected to trust another party where the former believes that it is in the best interest of the latter not to cheat since the benefits of staying in the relationship are more. Rao and Bergen point out that it is not uncommon for buyers to pay premium prices to their suppliers to not only ensure high quality goods and services but to deter the suppliers from cheating.[35]

The ability of one party to forecast the other party's behaviour is another factor that leads to trust.[36] As given by Doney and Cannon, trust is to do with the assessment of the other party's credibility and benevolence and as such one party must have information about the other party's behaviour and promises. Through repeated interactions, a party is in a better position to assess the predictability of the other party. A lack of congruence between the words and actions could lead to disappearance of trust in a partnership thereby weakening it. It goes without saying that the sharing of information becomes very important as it allows firms to have enough information to base their assessment of the other party's capabilities and intentions.[37] Moreover, the sharing of vital information between the parties also helps to build trust as both become vulnerable to the use/misuse of shared information by the other party for opportunistic reasons.

Another factor that leads to trust between customers and suppliers in partnerships is the determination of the other party's ability to meet its obligations - the reliability. Consistent and predictable acts over an extended period help to build up reliability in the eyes of the other party.[38] Reliability is based on the integrity or honesty of the other

party.[39] Whereas integrity refers to the degree to which one party repeatedly acts according to the other party, honesty is about the extent to which a party repeatedly performs according to a moral code. By forcing a supplier into a partnership when the latter cannot deliver would most likely result in the supplier being unreliable.[40] Instead, actively working to meet a partner's needs would allow the partnership to grow deeper. The predictable action of a partner complimented by an occasional interest to help the partner when in need will often build deeper sense of trust and a greater commitment to sustain the partnership in the future.[41]

In order to realise the full benefits of partnering relationships and to prevent them from failing, there are a number of issues that need to be addressed.[42] The first is the relative power of one partner over the other. The ability of one partner to exercise leverage over the other partner can be detrimental to the health of the partnership and can be a source of conflict. Conflict, that has a strong correlation to power, occurs when one firm obstructs the achievement of the goals of the other. Thus the inappropriate use of power by one partner could easily turn the win-win advantage of partnerships into a win-lose scenario - typical of adversarial relationships. A second one is when partners tend to give their self-interest priority over the common interest of the partnership instead of the other way around. Partnership requires a change of culture in both partners; putting the common interest of both partners higher than their individual self-interests.

An issue that questions the longevity of partnerships is the gap between the strategic requirements of long-term partnerships and the tactical level manoeuvring; opportunism to be precise. It is difficult to bridge such a gap because close working relationships offer both the opportunity and increased incentive for opportunistic behaviour. Opportunistic behaviour is more likely to be induced in a situation where partners cannot easily obtain similar benefits outside their partnerships. It is often the case that in buyers-supplier partnerships, buyers assume that if suppliers become too important, the latter will take advantage of the situation. In order to neutralise such a potential move by the suppliers, buyers tend to act opportunistically.

As cited earlier on, in partnerships price is not the only criterion by which suppliers are judged. Buyers look at the quality, the know-how, technological capability as well as the spirit of innovation amongst other things. In situations where the buyers have trouble valuing such factors, they tend to focus on price alone in their assessment of potential suppliers. More often than not, in such cases the buyer-seller relationship would exhibit more characteristics of an adversarial relationship than a partnership.

Partnerships in customer-supplier relationships have many advantages not least that they promote a win-win solution for both parties and engage them in a long-term relationship. Can partnership be employed between the public and private sectors? In an attempt to answer this, it is imperative to analyse any similarities or differences between the two sectors.

## 2.2 Public and Private Sectors: Similar or Divergent?

It is common knowledge that the public sector is considered to be one that comprises organisations owned and controlled by the state or government and as such they provide public goods and services (such as health and defence) for all the citizens of a state. At the other end of the spectrum, the private sector is taken to be consisting of profit-making organisations owned and controlled by private individuals and organisations providing private goods and services such as domestic consumables and mobile telephony. Nutt and Backoff write that it is important to realise the distinction between public and private sectors because failure to account for these differences could lead to inaccurate generalisations and other important distinctions between the two sectors.[43]

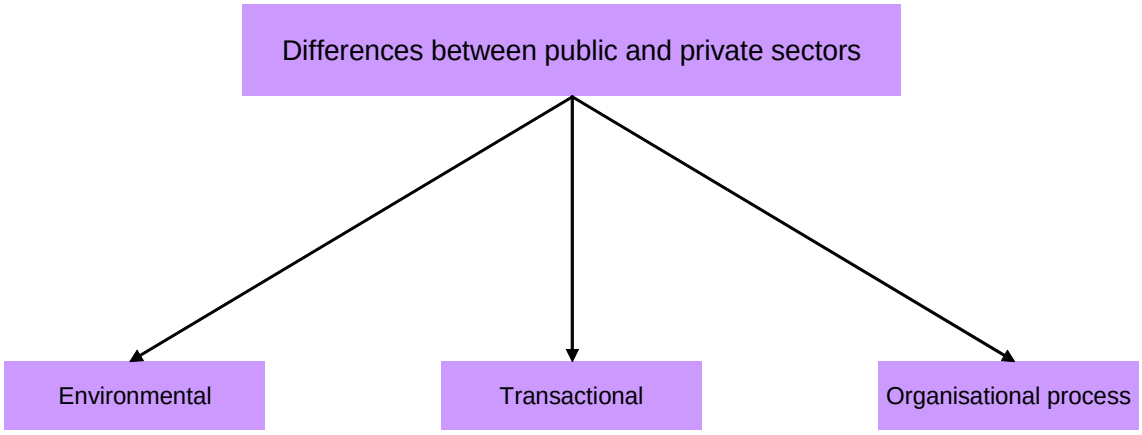
Rainey et al stress that defining what is meant by "public" and "private" with precision is very difficult.[44] Moreover, they argue that there are overlaps on various dimensions between the two sectors. The wide and varied involvement of the government in aspects of life that were previously considered to be private causes a "blurring" or convergence of the two sectors. Caiden[45] and Gawthorp[46] have frequently highlighted that there is convergence between the private and public sectors. Furthermore, Rainey et al point out that the "blurring" effect leads to two interrelated phenomena.[47] First the mélange of

governmental and non-governmental activities is more pronounced in undertakings where the private sector firms are engaged in the provision of public services.

The other aspect relates to the increasing similarity in function, context and role of organisations in both sectors. Weidenbaum has noted that some firms are so dependent on government contracts that they are very likely to take on certain attributes of government agencies.[48] According to Galbraith, many firms are such that they have so much market power and influence on the public interest that it would no longer be appropriate to regard them as "private".[49] Similarly, the increasing need for organisations in the private sector to exhibit social responsibility and public accountability further makes the distinction between the two sectors more blurred. Although the convergence of the two sectors certainly complicates any attempt to delineate them, a number of authors have gone past this difficulty in citing important differences that exist between organisations in the public and private sectors.[50]

The words "public" and "private" are taken from Latin where "public" means of the people and "private" means set apart.[51] There have been a range of classifications used to differentiate public and private sector organisations. Perry and Rainey recognise differences with respect to the following dimensions: environments, constraints, incentives and cultures.[52] Their analysis found that the unique requirements of the public sector restrict the extent to which ideas and practices prevalent in the private sector can be applied in the public sector. Allison[53] and Nuestadt[54] have attempted to chalk out the distinctive features of the public sector organisations; their work is built on ideas suggested by Rainey et al[55] and updated by Rainey. [56] The most widely accepted classification is that presented by Nutt and Backoff that uses environmental, transactional and organisational process factors to pinpoint the differences between organisations in the public and private sectors as shown in Figure 2.3.[57]

**Figure 2. 3: Differences between public and private sectors**




Source: Author and adapted from Nutt, P. C. and Backoff, R. W. (1993) Organisational Publicness and its implications for strategic management. *Journal of Public Administration Research and Theory*, 1993. Vol 3, No. 3, pp 209-31.

### 2.2.1 Public versus Private: Environmental Issues

The case with most public sector organisations is that they lack an economic market to supply them with the resources they need in the form of revenues. In contrast, for private sector organisations, it is the buying behaviour of people (that is shaped by price) that acts as a source of information giving signals to the organisations as to which goods and services to produce and which to withdraw. Public sector organisations usually offer their services for free; they seek their funding from budget allocations, or they may charge nominal fees to cover a portion of their costs. The Treasury is responsible for deciding on how the resources are to be split amongst the different public organisations; setting the total amounts that are to be spent by each one of them in one calendar year. The budget allocations for the services rendered by public organisations often follow historical precedent whether or not such expenditure has produced useful outcomes.[58]

Due to the absence of an active and real market on which to base such resource allocations, the appropriations of resources are more often than not divorced from market mechanisms. As such it may result in misappropriation of taxpayers' funds between competing ends. This paves the way for public organisations to avoid efficiency and effectiveness considerations unless they are imposed by the Treasury.[59]

On the other hand, the existence of real markets for organisations in the private sector allows market prices to demonstrate where resources are required and where they are not. In this way, the price mechanism acts as a tool to signal consumer preferences to producers (private sector organisations) ensuring that only those goods and services are produced that are demanded by customers.

Unlike public sector organisations that are funded through budgetary allocations, organisations in the private sector rely on the prices they charge for the goods and services that they produce. As such the role of profit-making in the private sector (but absent in the public sector) plays a very pivotal role and shapes the way private sector organisations operate. At the basic level, private organisations pursue a number of objectives; one of which is seeking profit. The profit motive is necessary not only for mere survival but also for growth of organisations in the private sector. In theory, managers' performance in the private sector is judged by actual and potential shareholders. If the directors of a corporate firm perform badly in the sense that reported profits decline, they can be booted out of office by the owners (shareholders) of the business.

The stock market also gives its verdict on the performance of a listed company via the share price. If the stock market perceives bad management of a company, the share price might take a dip that could attract takeover bids subsequently leading to installing new management to help it improve profits and ultimately drive up the share price. The threats of being voted out of office by shareholders and the possibility of a takeover are real and are supposed to discipline managers in the private sector and keep them on their toes. Moreover, out there in the private sector, outperforming competitors enables a company to continue making more profit and thus grow in the long-term. The profit motive thus puts the managers of private organisations under pressure to make their businesses increasingly efficient and effective so as to provide increasingly higher returns to the shareholders. Professor Uttley stresses that existence of market place in the private sector coupled with the need to generate profit exerts a powerful discipline on the management in the private sector to maximise efficiency. [60]

From a historical perspective, financial transactions in both the public and private sectors have been recorded on cash basis. This is an accounting system where transactions are recorded only when cash changes hands. Since the focus is on the flow of cash, this makes cash accounting simple to understand, audit and control. However, one of the significant drawbacks of this approach to accounting is that it fails to capture an accurate and true picture of costs and incomes and thus it is subject to cash manipulations.[61] Emergence of stock markets and corporate forms of businesses (characterised by the separation of the owners and managers of businesses) in the 16th and 17th centuries in the private sector necessitated the need for shareholders to have better access to information on how their monies are spent by managers. Moreover, the competitive nature of the market place in the private sector propelled the need for managers to have a more complete picture of costs incurred and incomes earned so that they can make the right decisions.

Pressures for better accounting information forced the private sector to move from cash accounting to accruals accounting in which transactions are recorded as they occur irrespective of when cash flows occur. The superiority of accruals accounting is demonstrated by the completeness of information it provides enabling managers in the private sector to make better management decisions thereby making it more efficient. In contrast, due to the absence of such pressures in the public sector, the latter stuck with cash accounting. It was not up until the late 1990s that accruals accounting was adopted in the UK public sector to pave the way for public sector organisations to benefit from access to better accounting information. Accruals accounting has been adopted as resource accounting and budgeting and is purported to enable the public sector organisations to make better decisions with respect to the allocation of scarce resources in an attempt to provide better public goods and services.

Another environmental issue affecting organisations in both sectors is political influence. Whereas political influence in private sector organisations is indirect and is internal to the organisation, public sector organisations are subject to political pressures from authority networks and users.[62] The manipulation by legislators and interest groups, the views of opinion leaders and opposition to a public sector organisation's

prerogatives are more important than economic issues that are crucial for private organisations.[63] It is quite common to find disagreements and reciprocity prevalent in public sector organisations. The manners in which things are understood by the stakeholders of a public sector organisation hold more importance than the accuracy of any claims.[64] In public sector organisations, claims derive their meaning from two sources: opinions of the stakeholders and the underlying facts. It goes without saying that bargaining is an essential practice to seek permissible arenas of action in such environments. Buffers are built in the form of coalitions and advisory groups to help sustain the external political pressures on public sector organisations. Consequently, decision-making in the public sector uses up more time and could result in something that might not make economic sense but which nevertheless satisfies the different stakeholders. In contrast, within the private sector, organisations need far fewer buffers because of the indirect nature of political influence. Moreover, guided by the profit motive, the economic dimension of possible actions is paramount.

### 2.2.2 Public versus Private: Transactional Factors

Due to the public organisations' often complex relationships dealing with environmental factors, they manage these relationships through coerciveness, subject to the extent of public scrutiny and ownership factors.[65]

According to Lowi[66] and Stahl[67], the inherent nature of the mandates of public organisations gives them coercive power. It is inconceivable to think of individuals choosing not to pay their income tax in an attempt not to fund public organisations for the goods and services that they produce. This characteristic feature of organisations in the public sector has the potential to breed inefficiency in their processes. Moreover, the extent of coercive power reduces when the use of the good or service becomes optional. In the case of private organisations, that are more dependent on marketing and selling to potential customers and from which they seek their funding, the consumption of the goods and services that they render is optional. As such they cannot exercise coercive power to the magnitude of public organisations. Private organisations are dependent on the profits they earn for survival and therefore in the absence of coercive power, such organisations strive to be more efficient to boost their earnings.

Amongst other things, ubiquitous ownership is another factor that distinguishes public organisations from private ones.[68] Caiden observes that public organisations are expected to demonstrate integrity, fairness, responsiveness, honesty and accountability to the citizens.[69] In comparison, people place fewer demands on private organisations and as such they have fewer implied obligations. The higher demands placed on public sector organisations coupled with their ability to exercise coercive power increases the prospect of scrutiny of their activities.[70] It is not uncommon for the public organisations to hide their strategy development. Their budgeting processes are visible; forcing public organisations to do their business in the open with their plans being made in the presence of hostile interest groups.[71]

Nutt and Backoff state that the mechanisms of accountability of public organisations make all their actions, plans and even contingency plans subject to review by outsiders.[72] At the other end of the spectrum, the plans and strategies of private organisations are secretive since they are operating in a competitive environment where rivals are fighting for market share. Since management and owners in corporate firms are separate, company law requires the financial accounts to be independently audited so as to honour the principal-agency relationship upon which they are formed.

### 2.2.3 Public versus Private: Organisational Considerations

Having looked at the environmental and transactional perspectives with respect to public and private organisations, the nature of internal operations of organisations in the two sectors further highlights the differences that exist between them. The most crucial difference between organisations in the public and private sectors is the differences in their respective goals.[73] Organisations in the public sector often have multiple goals that are not only vague but conflicting. The demands of interest groups, instability in missions and manipulations by important stakeholders generate a set of complex and confusing expectations that are often conflicting. Ambiguous goals create problems of identifying current and future strategic directions of public organisations.[74] On the other hand, goals in private organisations are more clear and precise as they are not subject to a divergent range of stakeholders. The clarity of goals in private organisations allows them to be steered in their desired directions. Furthermore, unlike private organisations,

equity in providing goods and services to the citizens takes precedence over efficiency.[75]

Dahl and Lindblom argue that goal ambiguity in public organisations makes performance expectations difficult to specify.[76] Vague goals in the public sector lead to vague performance expectations that have several consequences. First of all, it is difficult to recognise success because it is not easy to identify and reward key contributors. In the same sense, failure detection is problematic and is not corrected in a timely fashion. More importantly, vague performance indictors create a lower sense of urgency in public organisations. Periodic elections and political appointments install new leaders thereby interrupting public organisations' plans and projects and create inertia. Rainey et al stress that these interruptions lead to cautiousness, inflexibility and low rates of innovation.[77]

Due to vague performance expectations in public organisations, the use of incentives to encourage effective performance is more difficult in public than in private organisations.[78] The extent of difficulty in trying to use incentives to improve performance is dependent on how easy it is to link performance level, individual action and incentive payments.[79] In private organisations, the contributions made by individuals to the overall profits made by them can be rewarded in monetary forms. In public organisations, reward preferences, individual contributions to performance and the measurement of performance can create significant barriers to the use of incentives as a means to improve performance.[80] Banfield discovered that employees in the public sector habitually prefer job security, important roles and tasks, recognition and power over financial rewards.[81] Additionally, Lawler observes that there is evidence to suggest that employees in private sector organisations attach more significance to financial incentives than public sector employees.[82]

It can be a difficult task to implement such rewards and link them with performance. For instance job security and power are such that they may be given only once. There are very slim chances for important tasks to coincide with the need to provide reward. Moreover, attempting to link people's efforts to such rewards is cumbersome. It has

been previously cited that there is a divergent range of stakeholders in public organisations who exercise their influence. It becomes difficult to exactly trace the success in any tasks of a public sector organisation to an individual person. On the other hand, in the private sector goals are clearer and performance benchmarks can be placed with more ease. Thus they can use material incentives more effectively by tying measurable performance to financial rewards.

The differences and overlaps between the two sectors produce benefits and disadvantages for organisations in both the sectors. By teaming up and working closer together, could potential synergies be realised for both the sectors?

## 2.3 Working Together: Partnering Between Public and Private Sectors

Until the mid-1980s, it was quite common for public services to be delivered entirely by the public sector involving extensive bureaucratic co-ordination. Although these services were apparently efficient, the public sector often displayed signs of poor communication and co-ordination.[83] This in turn resulted in segregated approaches to dealing with problems. With the development of the free-market economy in different parts of the globe, most countries have been engaged in implementing radical changes in their economic functions and more importantly in the features and respective roles of the public and private sectors. The traditional concept of the private sector being autonomous and pursuing its immediate goal of profit maximisation and the public sector having discretionary powers and multiple objectives that relate to long-term goals in the public interest has been changing.[84]

In recent years, recognition of the limitations of bureaucracy in the public sector has generated an emphasis on markets and competition in the delivery of public services. Consequently, large bureaucracies have broken down into specialised agencies contracting for services with a variety of public and private providers.[85] Apparently, this new concept no longer reflects the interdependencies and dynamics of economics and social environment.[86] Murray stresses that the changing situation towards creating a mixture of public-private and government-market decision-making blurs the lines of responsibilities of the two sectors. According to the Institute of Public Policy Research,

people demand better public services and this can be achieved by focusing on the public services in terms of the outcomes and value rather than on the particular forms of delivery.[87]

Thus the concept of co-operation between the public and private sectors has been gaining wide acceptability and will continue to flourish more especially in those countries where the privatisation initiative has been actively implemented.[88] The sale of public assets including divestment of state-owned enterprises that are prominent under the privatisation programme became a vehicle for enhancing the provision of public services in the free market economy.[89] This has led to the overlapping of disciplines of public and private sectors thereby creating the concept of mixed economy. Such an economy is neither totally dominated by state enterprises nor is it populated with a totally unregulated system of competitive firms. The mixed economy creates an environment characterised by greater interdependencies between the two sectors that requires more co-ordination across public and private organisational boundaries.[90]

Success of privatisation efforts and realisation of the importance of the market mechanism paved the way for greater interest in closer relationships between the public and private sectors that took the form of public-private partnerships (PPP). [91] Carr asserts that the PPPs offer a broad umbrella that can bring investment potential and added value from the private sector whilst protecting public interest.[92] PPPs do not simply equate to the introduction of market mechanisms or of privatising public services, but instead are about the fact that public and private sectors have common goals and that through partnerships advantage can be taken of the separate strengths of the each sector to achieve the mutual objectives of both parties.[93]

Private sector organisations and public sector bodies can seek mutual benefits through PPPs that are characterised by trust, openness, fairness and mutual respect.[94] On one side, the public sector organisation stands to benefit from improvement of programme performance, cost efficiencies, better service provisions and the appropriate allocation of risks and responsibilities between the two sectors. On the other side, the private sector considers PPPs as having investment potential and thus seeks to make reasonable

amount of profits from it and looks to expand its business interests through the partnership.[95] However, Schermerhorn[96], Williamson[97] and Provan[98] observe that the formation of partnering relationships between two distinct organisations can often be disadvantageous as it could lead to increased complexity, loss of decision-making autonomy and information asymmetry. Moreover, Rosenau highlights that in PPPs, the potential for problems with regard to equity, access, participation and democracy do exist.[99] In reality, PPPs may achieve cost reductions at the expense of democracy and equity.[100]

Thus, it is often argued that in PPPs, the private sector needs to shoulder social responsibility and on the other hand, the public sector needs to create the appropriate regulatory structures as well as a democratic and participatory decision-making process.[101] It goes without saying that successful implementation of PPPs demands the development of sound regulatory framework that clearly spells out the areas of responsibilities of both sectors. The absence of any such regulatory and legal structures could potentially lead to disputes and delays or possibly termination of projects.[102] Kuttner[103] stresses that the legal frameworks help to reduce tendencies for opportunistic behaviour and Hennart points out that they also help in aligning the interests of the partners.[104]

## 2.4 The Case for Public-Private Partnerships

There are some things that the private sector does best (such as being more innovative and efficient with its resources) and yet there are others which, due to its inherent nature the public sector has an edge. The public sector is a reservoir of potential in the form of manpower that is dedicated and professional. Additionally, the portfolio of assets and businesses owned by the public sector, data and wealth of ideas and intellectual property all of which can be harnessed to yield better outputs. However, this pool of potential cannot be fully released without the engagement of the private sector. The private sector has distinguished disciplines and skills providing the necessary mix of tools to squeeze out the latent potential of the public sector. Private sector organisations operate in a fast-moving and fluid environment with profit-making critical for their survival. The existence of the market place in the private sector exerts a strong

discipline on the management in private sector organisations to maximise efficiency and make attempts to fully secure benefits from any business opportunities as they appear.

The need to generate a return means that organisations in the private sector are forced to hunt for ways to enhance their service that they offer to their customers. They are also under pressure to more readily adapt to changing requirements and expectations, because if they don't their customers would go elsewhere. This makes the private sector more responsive to customer needs. Similarly, the private sector is continuously engaged in the search for new business opportunities to further strengthen its profitability and this provides the private sector with the incentive to innovate and thus be able to provide better goods and services of a high standard.

Due to the multiplicity of policy objectives found in the public sector and the risk-averse culture (with respect to safeguarding taxpayers' money) that thrives therein, it is difficult to implement these disciplines in the public sector.[105] The lack of a market place and the absence of profit-making in the public sector do not create the motivation to be responsive to the needs of its customers nor does it induce innovative thinking. As a result, the public sector is less equipped to address inefficiencies and to develop innovative ways to delivering public services and managing their resources.

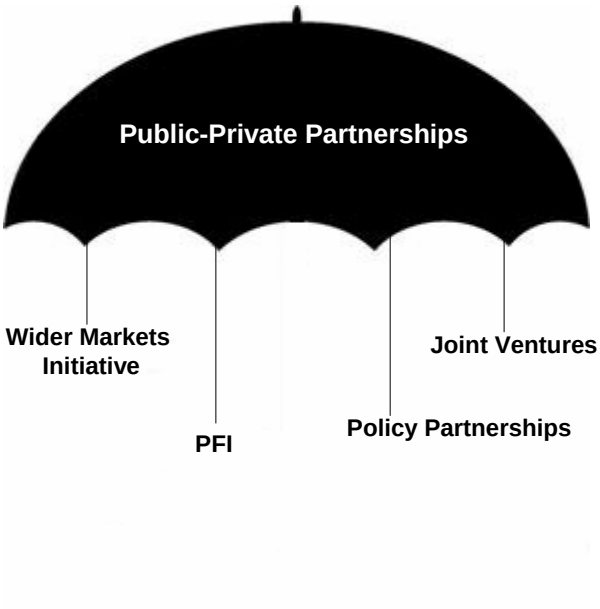
Through PPPs, the public and the private sectors are brought together into a long-term partnership arrangement whereby strengths of both the public and private sectors are pooled for the mutual benefit of parties from both the sectors. Central to such partnerships are the sharing of investment, responsibilities risk and reward between the partners. Although the rationale for initiating PPPs may vary, they usually involve the financing, design, building, operation and maintenance of public infrastructure and services. In spite of the fact that the roles and responsibilities of the partners in PPPs may differ from one project to another, the overall responsibilities of the government more or less remains the same.

PPPs are just one other way of delivering public infrastructure and services and should not be considered as a replacement for effective governance and decision-making by the

government. The government remains responsible for deciding which objective to pursue between the competing ones and ensuring that the wider public interests are protected.[106] In practical terms, this would mean that through PPPs the responsibility for many elements of the delivery of public service would be transferred to the private sector. Nevertheless, the public sector will retain responsibility for deciding on the level of public services needed and the amount of resources it considers is necessary to pay for them. Moreover, once initiated, the public services rendered by the private sector through PPPs will be monitored by the public sector to ensure that standards are met and thus the wider interests of the public are being protected.

There are many forms of PPPs as shown in Figure 2.4. These include wider markets initiative, policy partnerships, joint ventures and private finance initiative. They differ from each other according to the risks allocated and the level of work that is required by each partner to realise their agreed objectives.[107] The allocation of risk is crucial as this decides other important aspects of the partnership agreements including the rewards, the amount of investment required by the parties and the sharing of responsibilities between the partners.

**Figure 2. 4: Common types of Public-Private Partnerships**




Source: HM Treasury. *PFI: Meeting the investment challenge* [online]. HM Treasury, 2003. Available at: http://www.hm-treasury.gov.uk/media/648B2/PFI_604.pdf [Accessed 12 March 2008].

### 2.4.1 Wider Markets Initiative

The Wider Market Initiative (WMI) encourages public sector organisations to work in partnership with the private sector so that surplus/latent potential of public sector assets can be exploited. The public sector has assets such as land, building, people and intellectual property rights that are needed to deliver public services. Some of these assets may be central to the delivery of the public services and others, the non-core assets, may not be. The WMI encourages the public sector to understand and manage their assets better. It encourages them to dispose of the non-core assets and thus free up resources. More importantly, the WMI encourages the public sector to exploit spare capacity from their core assets with a view to generating commercial return in the public interest. WMI involves making new, non-statutory, use of core assets in the form of the sale or lease of goods and services in a competitive environment for a commercial return.[108]

It provides public sector organisations the opportunity to adopt an entrepreneurial approach to making the most effective and efficient use of core public assets by exploiting their commercial potential. Rather than instructing the public sector departments to use their assets more efficiently, the WMI actually gives the public sector the incentives to do so. The WMI does not oblige the public sector to exploit the spare potential of its core assets and as such there are no income generation or other targets. The absence of any such targets avoids any negative impact on the utilisation of public assets to deliver public services. Furthermore, it also avoids distorting the decision-making with respect to the commercial income generating activities.

Any investment in wider market activities is financed from the budgets of public sector organisations and where substantial investment is required, the private sector partner usually bears major portion of the load. As a result of these, public sector organisations need to have a clear picture of the commitments that they enter into. The long-term nature of such activities has to be taken into consideration by the public sector lest it prejudices the delivery of the core public services. Wider market activities can introduce risks and under PPP, they would be apportioned between the two partners according to which party is best suited to manage them. The input from the private

sector could be in the form of financial resources, marketing and management of the venture whilst public sector input would usually be its assets. The way in which ownership and reward are agreed between the partners is likely to be a reflection of the inputs and investment from the partners as well as the share of risks between them.

Wider market activities includes exploiting software, databases, expertise, skills, brands and intellectual property as well as physical assets such as land and buildings of the public sector. The utilisation of these assets can take the form of selling the existing goods and services produced by the public sector such as printing, mail sorting and translation as well as developing new goods and services from existing assets. Licensing and leasing spare warehousing, office and conference facilities are other examples of wider markets activities. The WMI helps to reduce the cost-base and improve the skills-base of public sector organisations as a result of the cash returns from sales revenues. Additionally, through exposure to business-like environment, the staff in the public sector gain commercial experience enabling them to better deliver the core public services. Under the wider market initiative, the Centre for Environment, Fisheries and Aquaculture Science (CEFAS), a science body, is able to generate £10 million per year in commercial revenue when the scientists in the group are not working on core issues.[109] This income helps to fund part of the budget of CEFAS by selling its expertise in the commercial sector. Similarly, within the Armed Forces, better use of property such as Boxer Towers avoids £50,000 in demolition costs and letting the towers for use as mobile telephone mast enables it to fetch £720,000 annually.[110]

### 2.4.2 Policy Partnerships

Policy partnerships are arrangements in which parties from the private sector are involved in the development or implementation of policy. New thinking and relevant experience drawn from the private sector would be used in resolving long-standing policy problems. Policy-making is about the development of priorities and ideas into options that ministries use to determine which options should be taken up and when. Policy-making is not just limited to choosing the best option, but it includes the implementation of ministers' decisions by government departments as the basis for delivering services to the people in an effort to bring about the desired outcomes. These

could include enhancement of industrial competitiveness, improving the road networks and provision of security to the population from external threats. As far as the implementation of policies is concerned, they are often implemented through agencies or other organisations such as public bodies and local authorities or even through partnership arrangements with other public departments or with private sector organisations.

A policy may originate as a response to an external event (such as reduction in the armed forces after the end of Cold War), from a new idea or initiative (for instance the Bank of England being given independence in controlling interest rates) or from the emergence of new technology giving way to new forms of delivery that would result in the modification of a long standing policy (for instance, developments in IT have made it possible to file self-assessment forms electronically). Policy-making is becoming an increasingly complex process because it often involves reconciling conflicting priorities and risks and thus it demands careful judgement to arrive at the most cost effective policy option. For instance, the fuel shortage of September 2000 demanded a swift response in terms of policy.[111] Moreover, it also involves determining how best to implement the option and uphold it over the long-term to ensure that outcomes such as improvements in education, healthcare and transport are sustained.

In the face of such complexities, public departments have to apply more powerful tools and draw on more specialist knowledge to improve their capacity to design and implement successful policies. Professional policy-making[112] encompasses forward-looking involving scenario-building and contingency planning. Project management and risk management are some of the key characteristics that public departments must demonstrate for effective policy-making. Additionally, experimentation with different options through pilots and trials allows lessons to be learnt and variation and flexibility to be introduced into policies where appropriate. Cost benefit analysis and economic modelling brings about robustness in the understanding of how a policy might play out in the real world. Moreover, highlighting research priorities allows the best use of research to deliver policy objectives and formulate strategy for the long-term.

The above mentioned characteristics of professional policy-making are hard to find in the public sector because of its inherent nature. On the other hand, the private sector that dwells on the need to make profit induces it to look for better and more efficient ways of operations. It is no surprise that the private sector is well-versed in the above mentioned tools and techniques for professional policy-making. This creates an opportunity for the public and private sectors to engage in partnering arrangements over the long-term in the form of policy partnerships where the private sector brings in its expertise in the form of technical skills, and knowledge and management experience to help the public sector public departments formulate and implement cost effective polices.

The Public Services Productivity Panel is an example of policy partnership between the public and private sectors.[113] It was established in 1998 to advise the government on raising levels of productivity and efficiency in the public services. Leading private sector managers sit on the Panel that is chaired by the Chief Secretary and reports to the Cabinet Committee that oversees progress made by public sector departments against their Public Service Agreements. The work of the Panel is to use the expertise of its members from the private sector to look at ideas and techniques that work and that can make significant difference to the way in which public services are offered. The vast experience of the Panel helps the Government to think differently and formulate policies that result in more efficient public services.

### 2.4.3 Joint Venture Partnerships

These are partnerships in which both the public and private sector partners pool their assets, finance and expertise, and it is jointly managed so as to deliver long-term growth in value for both the partners.[114] Also known as institutional PPPs, Joint-Venture PPPs are project companies jointly owned by both partners.[115] The driver behind forming such partnerships is that it allows the public sector partner to not only retain a relatively high degree of control over the project but also enhance its expertise through the cooperation with the private sector partners. As such partnerships are more common with franchises for utilities such as water where joint ventures are established between municipalities and utility companies.

Joint venture partnerships provide the opportunity to exploit the latent potential of government assets and to share the risk of delivering policy objectives as well as commercial objectives. It also enables the public sector to secure a share in the financial benefits of the project in proportion to its shareholding and thus it reduces the problems of windfall profits earned by the private sector because of better access to information. Examples of joint ventures could include contractual agreements such as licences, profit and revenue sharing agreements.

However, a number of issues emerge when forming joint-venture partnerships with regards to the choice of the private sector partner and the maintenance of an arm's length transaction between the joint venture PPP and the relevant public authority.[116] Some of these issues include whether or not a joint venture PPP should bid in competition for the PPP contract against other wholly private sector bidders. If that is not the case, then how will value for money be demonstrated? Additionally, what sort of procedures need to be in place if the public authority first decides to set up a PPP and then sell a shareholding in it to private sector partners? The very nature of joint venture PPPs also raise the issue during PPP contract negotiations of the public authority being on both sides of the table.

From a futuristic point of view, since the public sector jointly owns and manages the entire project with the private sector, what happens if the project gets into difficulty - will the public sector partner be under pressure to rescue it to protect its interests? Therefore judging when to use joint ventures instead of other forms of PPPs and how best to share the risks and rewards between the public and private sector partners are some of the challenges that have to be faced in joint venture PPPs. In spite of the political attention that joint venture PPPs attract, the public sector has to handle this type of a structure with a lot of care so as to avoid any wrong decisions being made because of the evident dual role of the public sector in such partnering arrangements.

Traditionally, the Department of Health and the National Health Service (NHS) trusts have collected information and data in an attempt to manage performance and improve delivery of healthcare services. However, both the Department and the NHS have

acknowledged that they have failed to make full use of the data and information collected. In April 2005, the Department established the Information Centre with a statutory duty to collect, analyse and disseminate data for the NHS with respect to health and social care. However, the Department felt that although Information Centre had the skills and expertise to carry out their core duties in relation to data collection, they were deficient in necessary commercial skills needed to quickly develop and market information products. The Department decided that the most cost effective way to obtain the necessary skills was through a commercial relationship with the private sector. Thus a joint venture company, Dr Foster Intelligence, was launched in February 2006 comprising of Information Centre and Dr Foster Ltd (the most high profile health informatics company) and a market leader.[117] The Information Centre paid £12 million cash to gain a 50% stake in the joint venture company.[118] This represents just one of the many examples where private sector expertise has been ploughed in the provision of public services in an attempt to improve the latter.

### 2.4.4 Private Finance Initiative (PFI)

The PFI is a public-private partnership where the public sector contracts to purchase quality services, with defined outputs, on a long-term basis from the private sector. In a PFI, the private sector designs, builds, finances and operates an asset whilst the role of the public sector is limited to enabling the project to go ahead and providing assistance with planning and statutory procedures. PFIs give the public sector the opportunity to benefit from private sector innovation and commercial sector discipline to help modernise public services and obtain better value for money. PFIs are usually considered to be a key form of PPPs.

## 2.5 The PFI Principle

In a PFI, capital assets are financed and constructed by the private sector through which it offers services to the public sector. The public sector contracts to purchase these services for the long-term (10 -25 years) to benefit from private sector expertise such as management and innovation. Unlike privatisation, the public sector retains a substantial role in PFI projects either as the principal purchaser of the services or as an essential enabler of the project. It is different from contracting out in that the private sector

partner not only provides the capital asset but it also renders the services. At face value it may seem that PFIs help to reduce up-front capital expenditure whilst delivering quality service in much the same way as a long-term hire contract for a car that provides transport but without the need for capital outlay to purchase the vehicle. Are PFIs basically hire purchase contracts?

Put more formally, the International Project Finance Association defines PFIs as:

*The financing of long-term infrastructure and public services based upon a non-recourse or limited recourse financial structure where project debt and equity used to finance the project are paid back from the cash flow generated by the project.*[119]

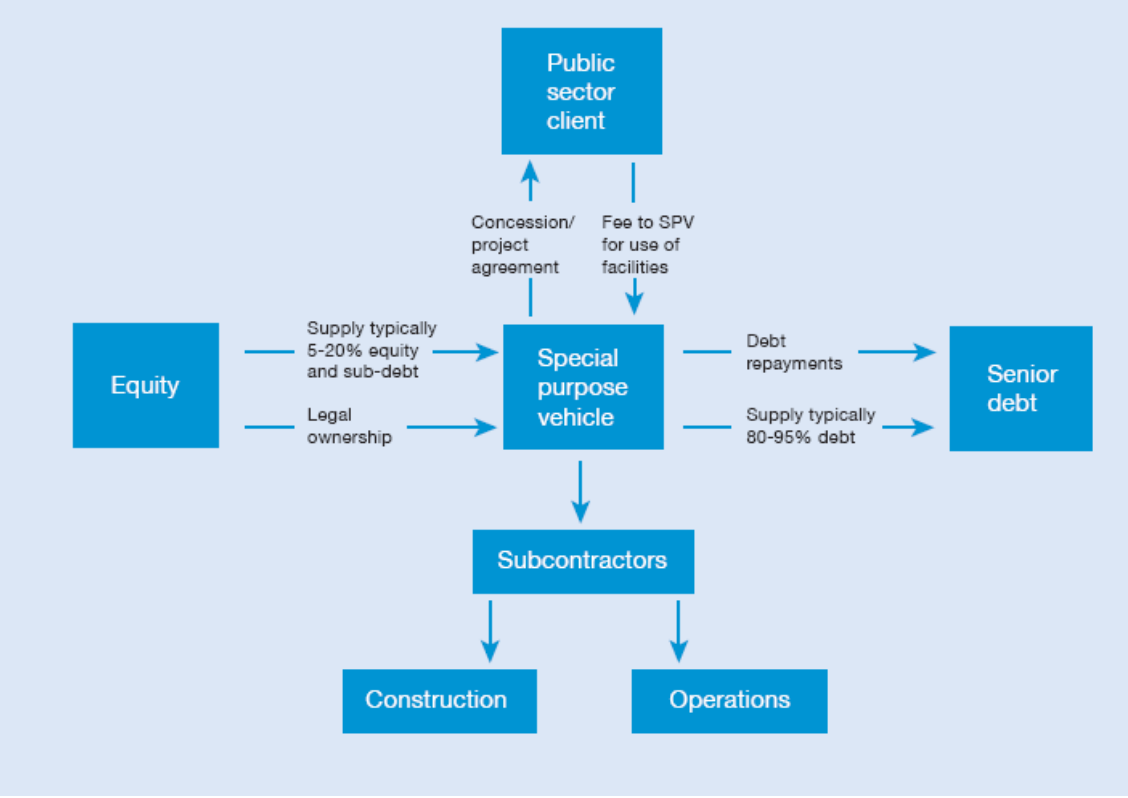
Under the most common form of PFI, the private sector is not only involved in the design of the capital asset but also responsible for its construction and operational management of the asset through which it provides services that are based upon output specifications decided by the public sector managers and departments. More importantly, the private sector partner alone bears the responsibility for raising and managing finance for the project that involves high initial capital outlay. This financial responsibility that is solely borne by the private sector partner differentiates PFIs from other PPPs. The private sector may well be involved in building most public facilities but under the PFI, the design, finance and operation is also carried out by the private sector. As such there is an element of risk transfer to the private sector that is a basic tenet of PFIs. This arrangement enables the public sector to benefit from quality and cost-effectiveness because the private sector may be in a better position to manage some of the risks than under traditional forms of public sector procurement. In a similar way, some of the risks may be better managed by the public sector that will be borne by the latter.

## 2.6 PFIs in Action

As Figure 2.5 shows, PFI projects normally consist of three main parties: the public sector (government), the special purpose vehicle (SPV) and financiers.[120] The public sector body first comes up with the specification (in terms of level of output, quality,

etc…) of the public service that it requires before it establishes the business case for using the PFI as the preferred procurement method and develops the public sector comparator (to gauge the value for money of bids by the private sector). It then invites bids from the private sector that meet the desired output objectives using best private sector expertise and know-how to deliver the service.[121] An SPV is created for delivering the PFI contract. The SPV is a limited liability company and it lies at the heart of the PFI arrangement. The SPV is funded from two sources: debt and equity. Equity finance is provided by the shareholders of the SPV who may include the contractors, facilities management and third party shareholders. Banks and other third party financiers provide the debt finance.

**Figure 2. 5: PFI in operation**




Source: PriceWaterHouse Coopers. The Value of PFI: Hanging in the balance (sheet)?. [online]. Available at: http://www.pwc.com/extweb/industry.nsf/docid/e418cebd9326ab60852572ce0034121f/$File/The_Value_of_PFI.pdf [Accessed 10 June 2008].

The SPV is linked to many parties such as the construction and operations subcontractors as well as the equity and debt investors. The objective of creating an SPV is to pass on the PFI risks to each of these parties and in doing so, the risk borne by the SPV is lowered thus helping it to secure loans on better terms. Once the capital asset has been built and starts to offer the specified services, the public sector agrees to make unitary payments to the consortium for using the infrastructure and services. The public sector can make deductions from these payments for late completion, poor quality infrastructure or poor service provision. This encourages the consortium to aim for timely completions and quality product/service; thus avoiding many of the problems associated with traditional public sector procurement.

The above is a brief description of how PFIs operate; a more in-depth examination of the various issues surrounding the PFIs is carried out in the next section.

### 2.6.1 Capital Investment: Public Sector Decision Making

Once the public sector authority has identified the need to make capital investment in public services, it has to determine if the investment in the new public infrastructure is economically justifiable. To seek economic justification, the public sector identifies the long-term financial benefits from a new facility compared to an existing one (e.g. in terms of operational costs) or other benefits that can be priced (e.g. savings on using a more efficient health service). More importantly, in assessing the potential public sector project, account has to be taken of its wider economic or social benefits or costs - externalities. Positive and negative externalities may include a boost in general economic activity in the country, better health of the public or rise or fall in noise pollution. One of the great applied econometricians of Harvard University, Griliches concluded that although externalities are often important, they are hard to quantify.[122] This difficulty in measuring externalities dampens the accuracy of the costs and benefits identified for the public sector project.

A cost-benefit analysis would be used to assess the financial attractiveness of the proposed capital investment project. This would involve applying the discounted cash flow (DCF) technique to the costs and benefits identified above and work out the net

present value of the project using the public sector discount rate (PSDR). If the total net present value comes out positive, then the investment can be justified. However, in situations, where it is difficult to attach a price tag to the benefits, then cost-effectiveness analysis would be carried out where the costs alone of the different solutions would be compared. Lying at the heart of the DCF computations is the choice of the public sector discount rate used. If this discount rate is set too high, it will undervalue benefits that may only be available for some considerable time in the future and therefore it would discourage long-term thinking in public sector investment. On the other hand, a low PSDR would make the investment look more attractive. Yescombe observes that there is little international consensus on how to determine the PSDR.[123]

One solution to this dilemma with the PSDR is to use a risk-free rate and add an adjustment to reflect the project risk. The project specific risk adjustment could be a generic risk adjustment to the rate for all public sector projects, a standard risk adjustment to the rate all projects in the same category or a rate adjustment that reflects the individual project's risk. If the generic risk adjustment is used to compute the PSDR, then it will be the average risk that will be applied to each public sector project. This has the consequences of treating high-risk projects in the same way as low risk projects. According to Yescombe, there is a strong need to accept the fact that there is no right answer with respect to how PSDR is derived.[124] A range of different discount rates could be used to observe an overall pattern that emerges.

But even if one discount rate is to be used as PSDR is derived, it presents further problems. This one discount rate may not reflect the risks associated with the individual cost components of the project. That is the risk of the project taking longer than expected might be different from the risks of operating cost overruns. Therefore an alternative approach would be to use a risk-free rate for all public sector investment but adjust the individual projected cash flows that are being discounted to reflect their appropriate risks. There is a worldwide phenomenon that affects projects in both the public and private sectors called optimism bias.[125] This is the demonstrated, systematic tendency for project managers to be overly optimistic about key project parameters such

as capital costs, works duration, operating costs and delivery of benefits. Project managers tend to overstate benefits and understate timings and costs. To address this tendency, explicit adjustments (that should be empirically based) should be made for this bias by increasing estimates of the costs and decreasing and delaying the receipt of estimated benefits.[126] This will help to factor in the respective risks associated with the different project parameters. A further issue that needs addressing is determining what the risk-free rate is? This could be the current market rate for government bonds, a fixed rate based on the historical average for government bonds or a social time preference rate (STPR); that is the rate at which private investors are willing to accept future benefits in exchange for foregoing current consumption. Using a fixed historical rate or a fixed STPR has the drawback in that these might get significantly out of line with the current market rates. This distorts the results especially where funding for the project comes from the financial markets as in a PFI. In the UK, the real STPR initially calculated as 6% was reduced to 3.5% in 2003 and since then has not been revised.[127] The financial markets are always in a state of flux and hence in reality the real STPR would be fluctuating. Using a fixed STPR as is the case since 2003, the results of any computations involving the PSDR would be questionable.

Thus the economic justification for public sector projects is not without challenges and involves to an extent some elements of subjectivity on the part of the public sector.

### 2.6.2 The Public Sector Comparator

Having decided that the proposed capital investment is economically justified, a public sector department has to decide whether the PFI route is the most appropriate one to adopt. This would depend on the extent to which the PFI route offers better value for money compared to traditional public sector procurement. One way of carrying out this is by building a public sector comparator (PSC). A PSC is an assumption of the NPV cost of a conventionally financed project delivering the same outputs as those of the PFI deal under examination. It is most relevant when the publicly financed option is a valid alternative to the PFI option.[128] The PSC is then compared to the NPV cost of the PFI that may either be estimated or known from the bids that have been received for it. Where the NPV cost of the PFI option proves to be lower than the PSC, the former can

be justified. It is worth highlighting that this is not the same as the economic justification discussed above in which the overall picture of investment in public sector infrastructure is considered. Here, the comparison of NPV costs is an attempt to choose the procurement route that is lower.

Use of the PSC has been the subject of considerable debate, particularly with respect to its accuracy, reliability and relevance.[129] There have been cases where underlying computations and erroneous interpretation of results have been manipulated to show that the PFI option is the cheaper one. Yescombe points out that there are a number of difficult issues that the construction of PSC raises.[130] The first of these is the challenge of comparing a PSC's cost with that for a PFI. These two costs can only be compared if they stand on equal footing. It would be erroneous to assume that these costs (PSC and the NPV for a PFI) would be the same for each of them. This is because risks are being transferred to the private sector under the PFI and consequently, these risks will increase the PFI cost to compensate the private sector for it.

For instance, under a PFI, if a construction subcontractor takes on extra risk and so the construction price will have to be increased to be able to absorb this risk. So the same construction cost cannot be used in the construction of the PSC where this extra risk will not apply. In the same way, the potential for innovation by the private sector in a PFI cannot be predicted and costed in advance to be included in the public sector's initial evaluation to compare the PSC to the NPV of the PFI option. Moreover, under the PFI route, the public sector authority will expend additional costs in procurement, negotiation and supervision of the SPV. These costs would be absent if the traditional route had been adopted.

Another issue that the PSC raises is that of risk transfer adjustments to be incorporated in PSC calculations. This can be done[131] by using the unadjusted NPV of the PSC and adding the NPV of the risks transferred to the SPV as well as the risks retained by the public sector. From this total an adjustment would need to be done to take account of the tax benefit or disadvantage that result from using the PFI option. This exercise will involve identifying all the relevant risks that are transferred to the private sector and

computing an expected value (using probabilities) for each risk (had they been retained by the public sector) and adding the result to the PSC. One important element involved is the risk of inherent inflexibility with the PFI option that leads to higher costs for the public sector body.[132] Although it is difficult to quantify such a risk, it is nonetheless a major issue that cannot be ignored. Therefore, the accuracy of the PSC is limited and they are prone to errors because of the complexity and subjectivity involved.

### 2.6.3 Project Affordability

While on the one hand, the PFI option offering a lower NPV justifies its use, an equally important factor that has to be considered by the public sector body is that of affordability i.e. in the light of the PFI option being cheaper, can the public sector afford the service fees (unitary payments). The first step to be taken by the public sector authority should be to set an affordability limit and ensure that it is not breached at any point during the period of the PFI contract. For this, the public sector body would need to build a realistic financial model of the costs that it would bear once it goes down the PFI option. If a situation arises where the PFI option proves to be cheaper than the traditional procurement route but it is unaffordable, the public sector authority should seek to reduce the scope of the PFI project in a bid to make it affordable and so that it does not lose value for money advantages.

Yescombe argues that deliberately manipulating the unitary payments such that they are lower in the earlier years but higher in later years to make them appear affordable would potentially damage the value for money benefits of PFIs.[133] A public sector department may inform private sector bidders of the affordability limit so that unrealistic bids are not made. The drawback of such an approach is that bidders might treat the affordability limit as the target price instead of offering their best bids. An alternative to this could be disclosing the affordability limit at a later stage as way of negotiating with bidders to bring their final prices down.

### 2.6.4 Contract Bidding

The procurement procedure i.e. the way in which bids are invited from the private sector and assessed lies at the core of the PFI process. A strong argument in favour of the PFI

route is that it has the potential to offer great savings when compared to the traditional procurement method. An efficient procurement procedure through effective competition ensures that such savings are not compromised and that value for money is achieved.[134] In most countries where a public contract is involved (as in a PFI), there is a legal requirement to ensure that the procurement process is competitive. The framework for public procurement procedures, to which most developed countries are parties, is given by Agreement on Government Procurement (GPA) that is administered by the World Trade Organisation.[135] Detailed rules based on the GPA are spelt out in the European Union public-procurement regulations.[136] Until 2006, EU law allowed for three types of bid procedure in public procurement: open, restricted and negotiated procedure.[137]

The open procedure allows anyone to bid and is not used for PFIs as it is best suited for procurements whose definition and specification can be precisely done at the outset. Under the restricted procedure, once pre-qualification is over, the requirements of the bid may be discussed with the bidders followed by the issuance of tender documents. Although further clarifications may be made thereafter, the receipt of bids marks the end of the process. The decision is based only on the bids received with no further negotiation with the bidders who are expected to sign the PFI contract as laid out in their bids. This procedure has the advantage that it offers a relatively quick and lower cost procedure for bidders and is best suited for situations where there is a likelihood of post-bid negotiations. Given the inherent complexity of PFI contracts, the restricted procedure is not used for PFI contracts.

The negotiated procedure is aimed at complex contracts where bidders provide different solutions for the service concerned. Additionally, due to the complexity of contracts, the basis for overall price cannot be determined in advance and so under this procedure further discussions after the bids have been received are permitted. However, such discussions should not result in fundamental changes to the original bid but detailed negotiations with all bidders are allowed. In the UK, the Office of Government Commerce has always supported the use of negotiated procedure for PFIs.[138] The government's argument in favour of this procedure is that the nature of work or the risks involved is such that prior overall pricing of the contract is difficult. Under this

procedure, the preferred bidder is chosen after going through a multi-stage bidding procedure. For instance, if four bidders put their initial proposals in the first round, then in the second round of bidding two out of the four are chosen and required to submit their best and final offer (BAFO), there may be a further round where bidders submit their last and final offer (LAFO).

With the negotiated procedure, there is very little regulation post pre-qualification process and it often leads to an extended period of negotiation with the preferred bidder before the PFI contract is finally awarded. The flexibility of this procedure has sparked some concerns.[139] These include the risk of the disclosure of confidential information among bidders and the likelihood of discrimination if negotiations occur after a preferred bidder has been chosen. To address these concerns, the EU introduced a new procedure in 2006 specially designed for PFI contracts: the competitive dialogue.[140] Under this procedure, the public authority discusses the technical details of the PFI contract with potential bidders (usually at least three) before the tenders are issued. Before the bids are put in, the public sector engages in bilateral dialogue with the bidders regarding any issues of the contract that may result in revisions to project requirements. The dialogue comes to a close when the public sector authority is in a position to identify the solution(s) that meets its needs. Bidders place in their bids based on the solution(s) identified and there is still room for clarification of bids once they are presented. Changes to the preferred bid must not substantially modify what has been agreed.

The competitive dialogue would encourage better procurement practice and strengthen the competitiveness in the PFI procurement process. Additionally it will also help to reduce the potential to make significant changes to the contract once competition has closed. As a result, time taken and costs involved in the preferred bidder stage would reduce but there are risks that cannot be ignored. The risk of negotiating the PFI contract with more bidders will inflate the overall tendering costs for both the public and private sectors and this may dampen bidder interest.

### 2.6.5 Bid Evaluation

The pre-qualification process would eliminate those bidders who fail to demonstrate their financial capacity, technology and experience to undertake the PFI project. From the rest, once the bids have been received, there is a need to asses them in order to choose the preferred bidder. One of the methods that could be used for bid evaluation is price comparison.[141] This method is most appropriate in situations where all the bids can be placed on almost identical bases and the final decision is just a matter of comparing the unitary payments. However, it would be necessary to discount the amounts payable (as unitary payments) by computing the NPV of each bid so that comparison is made like for like. This approach works well for restricted bid procedure where all other issues have been clarified before the bidders submit their bids. With a more complex payment structure like that involved in a PFI, it is unlikely that price comparison is the only basis used for deciding on PFI bids. Furthermore, when evaluating PFI bids by considering cost alone, one of the difficult challenges faced is that of evaluation of the trade-off between cost and long-term flexibility especially where low initial cost is created through financial structuring.

An alternative approach is by working out the most economically advantageous bid.[142] This is a more complex yet more comprehensive system where different aspects of the bid are scored. Thus under this system, points are given for design, speed of completion, reliability, quality of service, risks transferred and other parameters that are important to the public sector authority as well as the price. In this way the most economically advantageous bid is identified. Weighting to be given to the different parameters should be spelt out in the invitation to competitive dialogue. Although this system of bid evaluation is more comprehensive than the earlier one, there will inevitably be subjectivity involved both in terms of how these factors are weighted against each other as well as how different aspects of the same factors are compared when these are non-financial.[143]

### 2.6.6 Creation of the SPV

In a PFI project, the Special Purpose Vehicle (SPV) lies at the heart of all contractual and financial relationships. The nature of the SPV is such that it cannot work on any

other business that is not part of the PFI contract. There are fundamentally two reasons why an SPV is used in PFIs. [144] The SPV by being a separate legal entity ensures that there is no recourse to the financiers and it also ensures that the business of the SPV is not affected by problems with any unrelated businesses. Since the SPV cannot have any assets or liabilities other than those directly related to the PFI project, the SPV is formed as a new company. Moreover, the corporate form of the SPV is attractive to lenders for security and control reasons. Lenders will want that the SPV not to be affected by one of its investors getting into financial difficulties. For instance if an investor is made insolvent, that should not result in the SPV becoming insolvent too. To reduce such risk, lenders prefer the SPV to be owned by a holding company. Additionally there are tax benefits to be accrued from this structuring.

The SPV is usually formed at a late stage in the PFI project development process. This is because it has no function up until the PFI contract and relevant financing are in place. Thus it is quite normal for the lenders to sign some of the PFI contracts and then transfer them in due course to the SPV. The structure of the SPV may be such that it has no permanent staff; all of its key functions like construction, operation and maintenance may be subcontracted. Although subcontracting is advantageous in financial and operational terms, having a minimum level of staff (comprising of one general manager and a couple of assistants) in the SPV would give a clear point of contact for the public authority. Additionally, it is important to have an independent person dedicated to supervise the subcontractors on a regular basis.

### 2.6.7 Financing the PFI

Unlike conventional public sector procurement that is funded wholly through public finance, the raising and management of finance for PFIs through project finance is carried out by the private sector. Project finance, also known as non-recourse or limited recourse finance, is a method of raising long-term debt for major projects, like PFIs, where amounts are lent against the cash flows generated by the project.[145] It is based on detailed evaluation of the PFI's construction, operating and revenue risks and their allocation between investors, lenders and other parties through contractual arrangements.[146] Although project finance structures may be industry and deal-specific,

there are some typical characteristics common to all project finance deals. One of these is that they are provided for a ring-fenced project i.e. a specific project only like a PFI. Moreover, it is normally raised for a new project rather than for an established business. Under this form of financing structure, the ratio of debt to equity is very high with gearing ratios ranging from 7:3 to 9:1.[147] The project finance debt has first call on the SPV's net operating cash flow and as such it is senior to the claims of the equity investors of the SPV; making equity sourced finance more risky. If the PFI project fails to generate the expected revenue, the lenders do not have recourse to the PFI assets and as such there are no guarantees from the SPV equity investors. The lenders therefore rely on the future cash flows emerging from the PFI project for the payment of interest and loan repayments; rather than the value of the PFI assets. Since the value of any physical assets created in PFIs are likely to be worth less than the debt, the PFI contract itself is the main security for lenders. It goes without saying that due to this, lenders exercise a close control over the activities of the SPV in delivering the PFI contract.

Hence project finance differs from corporate loans from a number of angles. Unlike project finance, corporate loans are lent essentially against the assets of a company as well as future projected cash flows and profits. Additionally, corporate loans are negotiated under the assumption that the company has an indefinite life and so loans can be rolled over. This is in complete contrast to project finance for PFIs where the funding is for a specific PFI project having a limited life. Corporate lenders face a lower default risk so even if one project fails, the lenders can still expect repayment of their loans because they have access to the cash flows of the entire business; not just one specific project. So long as the financial outlook of the company is bright, corporate lenders allow the company to run as they see fit.

Project finance is more complex, takes much longer time to setup and has higher up-front costs than corporate loans.[148] As such it severely restricts the ability of the owners of the SPV to manage it freely. Nevertheless, project finance is attractive to the private sector for a number of reasons.[149] In typical project finance for PFIs, the loans offered to the SPVs are completely non-recourse. This means that the SPV has no obligation to pay back the loan if the revenue generated from the loan falls short of covering principal

and interest payments on the loan. The risk of defaulting on the loans to the equity investors is limited to their amount of investment in the SPV. To counter this risk, lenders usually require guarantees, warrantees and other covenants from the SPV. Moreover, taking into account the fact that debt finance is cheaper than equity[150], the high leverage non-recourse nature of project finance makes it easier for the equity investors to put in relatively lower amount of funds at risk and earn a higher rate of return on their investment. Another attraction of making the SPV highly geared is that generally it is more difficult to raise equity than debt. The PFI project would become more complex to manage if equity investors are brought in because the original investors in the SPV would lose control.

Project finance loans for PFIs have a longer term than corporate loans. Due to the fact that the high initial capital expenditure with PFIs, a short-term loan would push up the price charged for the end product. The long-term nature of project finance loan helps to reduce the financial cost and ironically it may also help to reduce the risk of default during a PFI's early years of operation.[151] This is because in the initial stages, the cash flow may be most uncertain and the longer-term nature of project debt finance helps to reduce the annual debt-service payments. Non-recourse debt finance for a PFI project raised by an affiliate of the SPV does not count against corporate credit lines and thus it may increase the investor's overall borrowing capacity enabling it to undertake several PFI projects simultaneously. In a similar way, a company's credit rating is less likely to be affected if its risks on project investments are capped through the project finance structure, thereby enabling it to invest in more PFI projects.

Given the benefits of using project finance to the private sector, does the public sector gain from this financial structure? Finance costs constitute a significant part of costs of long-term contracts such as PFIs.[152] But can the private sector secure finance at a lower cost than the government? Professor Keith Hartley[153] asserts that governments can always borrow more cheaply than the private sector. Although, the Financial Times indicated that the gap between these two rates of borrowing was quite narrow, a NAO report on PFIs revealed that the difference in the rates was as much as 12 percentage points; this extra cost of a private sector finance accounted for one seventh of a PFI

contract value.[154] Thus the difference in the cost of finance from the two sources could be significant. As far as finance costs are concerned, are PFIs then uneconomical?

The cost of borrowing depends on a number of factors; principally the risk of defaulting and the expected returns.[155] Government borrowing is backed by tax revenues and hence it is considered virtually risk-free whereas with private sector there is always some risk of default associated and hence they obtain loans on less advantageous terms. This difference exists because of the different methods of costing for risk in these two sectors. In the private sector, risk is accounted for by using a higher discount rate. A risk premium is therefore explicit in the private cost of capital. On the other hand, when gilts are used to finance public sector projects, tax payers underwrite the risks of the project and this is reflected in the lower cost of public finance. The risks borne by taxpayers are not factored into the cost of public finance. If tax payers were to be compensated for carrying these risks, the cost of public and private finance would be similar if not same.

Project finance debt is provided from two main sources - commercial banks and bond holders. Of these, commercial banks is the bigger source; accounting for 85% of project finance in 2005.[156] Bonds issued by the SPV for PFI finance are similar to a loan from the perspective of the SPV. The bond issuer - the SPV- agrees to repay the bond holder (who is the lender) the principal plus interest at fixed dates over the term. Holders of project finance bonds are investors who are looking for a long-term return on their investment without taking on equity risks. Typical project finance bond holders include insurance companies and pension funds. The essential difference between bank loans and bonds is that the latter are tradable instruments whilst the former are not. In theory this makes bonds having more liquidity than loans. The liquidity of bonds makes it appear less risky but in the UK, the sterling bond market for PFIs is somewhat limited.[157] On the other hand, loans can be traded albeit on an ad hoc basis between banks.

The decision of the SPV on whether to use bank loans or bonds hinges on a number of key factors.[158] For larger PFI projects, bonds are more suitable as they offer more liquidity than bank loans. Moreover, bonds have the advantage that they tend to have a

lower cost than loans partly because there is a wider investor base. Up until the mid-1990s, it was unusual for banks project finance loans to be given out for terms longer than 20 years. But bonds have always been used to provide very long-term finance. Tanaka from the International Finance Division, Bank of England, concludes that the ease of rollover makes bank loans more attractive for short-term financing whilst on the other hand the transferability (liquidity) makes bonds cheaper for long-term financing.[159] Additionally, with bank loans, the SPV's corporate banking lines may be used up but with bonds, a different investor base is brought in and thus avoiding the need to tie up bank credit lines. Unlike bank loans, repayment schedules with bonds are inflexible. Thus if the cash flows from the PFI project fail to flow in the expected pattern, it could present problems to the SPV. Furthermore, if the PFI project runs into difficulty, negotiations with the bank would be private but negotiations with bond holders may be made public.

More importantly with bank project-finance loans, unlike for corporate loans, the lending decision is not made against any business track record of the SPV not least because one doesn't exist. In order that their investment is sound, banks have to be confident that the project finance loans given out for PFIs will be repaid taking into account the additional risk of high levels of debt of the SPV. In order to reduce the risk of default, banks need to have a high degree of confidence that there will be no cost and time overruns on the PFI project, that the net operational cash inflows can be estimated with a high degree of accuracy and most importantly that the net operational cash inflows will be sufficient to cover the interest on the loan. In order to gain assurances with respect to the issues described above, banks need to exercise due diligence by evaluating the terms of the PFI contract so as to assess the construction costs, operating cash inflows and the risks inherent in the project.

Due to the high leveraged financial structure of the SPV, its capacity to absorb risks is restricted. Hence banks need to ensure that the PFI project risks are allocated to appropriate parties (subcontractors). This due diligence process could potentially slow down the progress of the PFI project where the banks get involved - directly or indirectly- in the negotiation of the PFI project contract. Since banks are risk-averse, the

due diligence process is critical and thus unavoidable. To help with the process of due diligence, banks employ legal and technical advisers as well as market-risk advisers so that the former can evaluate the extent to which the SPV has the capacity to deliver on the PFI project.

The cost of engaging a team of advisers is borne by the SPV and pushes up its bidding and development costs that ultimately feed through to higher unitary payments by the public authority. Despite the extra work and cost involved, the process of due diligence can be of value to the public authority as it helps to validate the PFI project and ensure its long-term viability. Project finance bond holders do not get involved in the due diligence process directly; they rely on the PFI project's investment bank together with a rating agency to carry out the process.

### 2.6.8 Accounting for PFIs

Ever since their genesis, the accounting treatment of PFIs in both the private sector and public sectors books has attracted a considerable amount of debate. From the above analysis, it is clear that under PFIs, capital assets are created that are designed, built and operated by the private sector. More importantly, funding of the PFI asset is carried out solely by the private sector through equity, bank loans and bonds. The accounting question is whether the PFI asset appears as an asset on the balance sheet of the SPV only, the public sector only, the accounts of both partners, or neither of them. Does it matter on whose balance sheet the PFI asset is recognised?

If the PFI project is recorded as an asset in the books of the SPV only, then the latter will incur depreciation charges on the asset. This will reduce the SPV's profit and hence their return on the PFI project. This accounting treatment will result in the PFI project being off the public sector's balance sheet. The unitary charge payments to the SPV by the public sector would then be accounted for as current expenditure. More importantly, the total unitary charges to be paid to the SPV over the duration of the PFI contract will not feature as a liability in the government's books. This off-balance sheet treatment allows the government to build new capital infrastructure without affecting the level of

public sector debt. Moreover, by keeping the PFI projects off-balance sheet, the public sector avoids depreciation and cost of capital charges.

Following the 1998 Comprehensive Expenditure Review, the government introduced the distinction between capital and current expenditure.[160] Moreover following the July 1997 fiscal budget, the government introduced a new fiscal policy framework that is based on two rules: the golden rule and the sustainability investment rule.[161] The golden rule stated that over the economic cycle, the government will only borrow to invest and the sustainability investment rule restricts the borrowing to 40% of GDP. This rule was superseded in 2010 by another one that stated that the government would attempt to stabilise and then reduce the public sector net debt as a percentage of GDP.

By recognising PFI projects on the public sector's books, not only will the current expenditure of the government increase through depreciation and cost of capital charges but the outstanding amounts on PFI contract to the SPVs will also be registered as liabilities in government accounts. This will raise the level of public debt and could result in the government breaching the golden rule. The advantage for the SPV of not recognising the PFI project as an asset in their books is the avoidance of depreciation charges resulting in higher profits. From a financial standpoint, it could be argued that the off-balance sheet treatment of PFIs is more beneficial as it allows government to expand public sector capital infrastructure with a restricted budget. That is, PFIs make investment in public infrastructure more affordable. Critics argue that although PFIs are affordable over the short-term, over the long-term the PFI route is more expensive.[162] On the other side of the coin, by keeping PFI projects on-balance sheet, a true picture of the total liabilities of the state will be known not only to the current generation but to the future ones as well.

Given the pros and cons of having the PFI assets on and off-balance sheets, it is worth asking what guidance is available to help decide their accounting treatment. Within the commercial sector, accounting standards are prepared by the Accounting Standards Board whose aim is to establish and improve standards of financial accounting and reporting for the benefit of users, preparers and auditors of financial statements.[163] In

the past decade, the public sector has adopted resource accounting under the heading Resource Accounting and budgeting (RAB). The accounting standards being applied under RAB are essentially the same as those used in the commercial sector; there are areas where the commercial accounting standards have been modified to suit the unique requirements of the public sector.[164]

There are a couple of accounting standards that provide guidance on how PFI transactions are supposed to be recorded in the books of the SPV and the public sector body. These are SSAP21 that details the accounting treatment of leases and FRS 5 that deals with reporting the substance of transactions.[165] A specific accounting issue is of these standards which one should be applied. Application note 5 under FRS5 states that in order to decide on which accounting standard to use, it must first be determined if the PFI agreement can be separated into commercially independent property and service elements.[166] Where the PFI agreement can be split into these two distinct elements, then the portion of the unitary charge that relates to the availability of the PFI property/asset is accounted for under SSAP21. The other portion of the unitary charge payment that relates to the provision of service will be treated as current expenditure.

Under SSAP21, there are two types of leases: finance and operating lease. The distinction between the two is that in a finance lease, substantially all the risks and rewards of ownership of the asset are transferred to the lessee. This means that if the public sector (the lessee) is responsible for majority of the risks such as insuring and maintenance of the asset and also enjoys the rewards of owning the asset, then the property element of the PFI project should be recorded as an asset in the government's books. Furthermore, under SSAP21 the property element of the PFI project will be considered finance lease where the public sector has the option for a secondary lease-term, the PFI project is of such a specialised nature that only the public sector body can make use of it and the public sector is responsible for repairing and insuring the asset. Otherwise, the entire PFI project will be treated off the books of the public sector.

Where the PFI contract cannot be split into property and service elements, then FRS5 is applied to determine whether to account for the PFI project as a fixed asset or a finance

debtor in the books of the SPV. The key test here is the extent to which the SPV bears any variations in profits or losses on the property. A number of factors will need to be taken into consideration such as which party bears demand-risk, determines the nature of the PFI property, bears the residual value risk , bears the risk of changes in property related costs as well as risk of obsolescence. Moreover, the penalties involved (when the property is unavailable) and the significance of third party revenues are relevant factors in this exercise. Under FRS5, if the PFI project is treated as a fixed asset in the books of the SPV, then it will be recorded off the government's books. But if the PFI project is accounted for as a finance debtor in the books of the SPV, then the PFI project will be recorded as on-balance sheet in government's books.

Under both the accounting standards, the critical aspect is determining which party bears more risks. This exercise can be subjective and could result in PFIs being accounted for as off-balance sheet in the government's books. Thus risk transfer played a pivotal role in how PFIs were accounted for (prior to 2009) which in turn affected the level of profits recorded by SPVs and the level of public sector debt.

It was announced in the Budget 2007 that government departments and other public sector bodies must prepare their annual resource accounts using International Financial Reporting Standards (IFRS) from 2009/10.[167] Adoption of IFRS would be beneficial to the public sector as it would improve consistency and comparability between financial reports in the global economy, and it would enable private sector best practice to be followed. In line with this change, HM Treasury announced that the principles of International Financial Reporting Council Interpretations Committee Interpretation 12 (IFRIC 12) would be adopted for accounting for PFI projects by the public sector.[168]

Unlike SSAP21 and FRS5 which were used to account for PFIs prior to 2009/10, and which were based on a risks and rewards approach to determine whether PFI assets should be recorded on or off the government's books, under IFRIC 12 a control-based approach must be used to assess which party records PFI assets in its books. More specifically, it states that the party that controls or regulates the services the operator (SPV) must provide, using the assets, for whom and at what price, and also controls any

significant residual interest in the assets at the end of the PFI contract, is the party that should recognise the asset as property, plant and equipment. Thus under PFIs, the party that should recognise PFI assets in its books will be public sector departments. Moreover, public sector departments will also record future financial commitments in respect of PFIs as short and long-term financial liabilities. The SPV will, under IFRIC 12, record a financial asset. The overall result will be that most, if not all, PFI assets since 2009/10 must be recorded on government books thereby increasing the public sector net debt.

### 2.6.9 Risk Transfer

In a PFI project, risk relates to the occurrence of uncertain outcomes that could have a direct effect on the provision of services (e.g. because the PFI asset is not ready on time) or on the financial feasibility of the PFI project (due to loss of revenue or rise in costs). In either case, there will be a cost or a loss that someone has to bear. Thus one of the key issues when negotiating a PFI project is deciding which party, the public or private sector, would bear these costs or losses. The transfer of risks from the public to the private sector lies at the heart of PFI project contracts.[169] But what is risk?

The term 'risk' has different meanings depending on the perspective being taken that may range from actuarial, engineering and psychological to environmental and financial.[170] Taking the financial angle, for instance, risk is taken to be the variance of returns around the expected return.[171] The relationship between risk and return is commonplace in finance. The greater the amount of risks that investors are willing to take on, the higher the potential reward they expect. The rationale behind this relationship is that investors need to be compensated for taking on higher risks. From the politicians' point of view, risk may be the consequences of making a decision.

The Royal Society defines risk as the probability that a particular adverse event occurs during a specified period of time.[172] Smith views risk as a decision expressed by a range of possible outcomes with attached probabilities.[173] Much related to these two definitions, Hertz and Thomas have suggested that risk is about uncertainty and the results of uncertainly.[174] The Risk Management Standard defines risk as the probability

of an event and its consequences.[175] Although risk can be defined in various ways, the crucial element is that risk is the distinction between reality and possibility. Thus in its simplest form, risk can be defined as uncertainty which matters because if there is uncertainty that has no consequences then it does not pose a risk.[176] For the purposes of this work, risk is defined as the probable consequence of a future event. In order words, it is the product of the consequence of a future event and its probability.

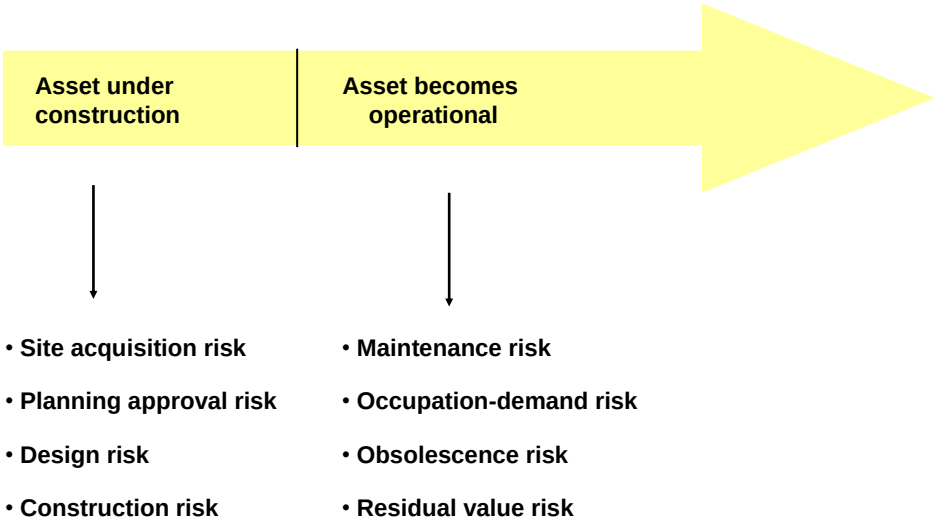
In a PFI, the project risks can be handled in a number of ways:[177] risks can be retained by the public sector, transferred to and held by the SPV and risk transferred to the SPV can be reallocated to the third parties by passing them on to subcontractors, covering them by insurance or having them guaranteed by the public sector. Risk transfer lies at the heart of justifying value for money in favour of a PFI route. From the perspective of the public sector, the main purpose of transferring risks to the private sector is to appropriately incentivise the SPV to provide the service that is the subject of the PFI project. If risks transferred to the private sector are very difficult for the SPV, its lenders or subcontractors to control, then the private sector may be forced to charge the public sector heavily for doing so.

Gallimore et al stresses that if the price of the risk transfer becomes very high it may compromise value for money advantages that the PFI option provides.[178] There must be convergence of opinion on the level and degree of risk to be transferred so as to enable agreement on the price to take place. Dixon et al point out the principle that risks should be transferred to those best able to control them.[179] In furthering this principle, Yescombe observes that whichever party assumes the risks must also have the freedom to handle it so that in effect risks are borne by the party that is most capable and does so at the lowest cost.[180] Thus it makes most sense for the public sector to retain those risks that if transferred cannot be controlled by the private sector cost-effectively. At the same time, retaining excessive risks by the public sector will defeat the purpose of PFIs and thus a balance has to be struck.

Risks associated with PFI projects can be grouped into two broad categories (Figure 2.6): those that arise from the creation of an asset and cease afterwards and those that

last for the life of the PFI project and maybe beyond.[181] Risks that fall in the first category include site acquisition risk, planning approval risk, design risk and construction risk. Risks in the second category include maintenance risk, occupation-demand risk, obsolescence risk and residual value (of the asset) risk. Systematic risks such as economic, legislative and taxation risks also exist. Typical risks transferred to the private sector include:[182] risks of not meeting the required standards of delivery in which case the consortium has to bear the costs of rectification, risks of cost and time overruns that under the traditional procurement method were borne by the public sector, the risk of industrial action, physical damage and asset obsolescence and the financial risk of making a loss on the project.

**Figure 2. 6: Risks associated with PFI projects**




Source: Gallimore, P., Williams, W., and Woodward, D. Perceptions of Risk in the PFI. *Journal of Property Finance*, 1997. Vol 8, No.2, pp 164-176.

Not all of these risks are borne by the SPV alone. Instead, the SPV passes these risks to other parties such as the contractors (who take on the design, construction and completion risk), facility management providers (who take on the risk of timely and cost effective service provision), insurers (who bear the protection, damage and business interruption risks) its investors and, third party financiers take on the residual risks. This subsequent transfer of risks significantly reduces the risks borne by the SPV

and allows it to take on several PFI contracts at a time easily. But what incentive is there for the private sector to take on these risks? The cost of taking on these risks is recouped from the unitary payments by the public sector. But for the PFI to provide better value for money, the price charged by the consortium that incorporates the cost of taking on risks, should be lower than the public sector comparator.

However, there are certain risks that are better managed by the public sector because of their nature and they are thus retained. These include: risks of miscalculating and then misstating the level of services needed by the public sector, risk that changes may be required to accommodate any changing public sector needs over the contract period, the risk of the facility being idle (public sector payments may not be linked to the volume of use and this risk may thus be passed on to the private sector where the payments are linked to usage and the consortium manages this risk by offering the facility to third parties thereby generating third party revenues) and general inflation risk.

A common error on the part of the public sector is to push bidders to accept too much risk. More importantly these extra risks are those that the SPV cannot reallocate elsewhere and has to retain it. In such cases, when the lenders come on board, risk arrangements have to be renegotiated. From the point of view of the lenders, any risk that is transferred to the SPV but does not get reallocated becomes the lenders' risk. This is because of the limited resources of the SPV that is evident from the high gearing ratio of the SPV and the fact that the equity investors' liabilities being limited to the amounts invested in the SPV. Banks as lenders in PFIs are risk-averse; their approach can be summed up in the maxim 'A banker is a man who lends you an umbrella when the sun is shining'. In order words, lenders wish to see the SPV as an empty box; where all the risks have been reallocated.

Their risk-averse nature is reflected in the returns that banks earn by providing project finance loans that are clearly insufficient to absorb any substantial risk. Typical credit margins earned by banks may be around 1% over their cost of funds.[183] This means that if one out of a hundred loans fail, the bank has ended up with a loss in the project-finance loan business. In order words, even a 1/100$^{th}$ risk of failure is significant from

the bank's point of view. Furthermore, banks as lenders are entitled to fixed returns and so they do not enjoy any upside resulting from more efficient operation of the PFI project. Therefore for lenders, a risk with low probability but high impact is of much greater importance than the same risk for the public sector. As such, lenders assess the PFI risks by working out worst case scenarios.

Once the construction of the PFI asset has been completed, project risks are reduced because the risks associated with commencing service delivery such as those related to project site; construction and completion of the PFI asset are eliminated. Due to the lower risk profile of the PFI project, this creates opportunities to reduce financing costs by refinancing the debt as financiers are prepared to offer the project finance loans on better terms (i.e. lower interest rates). Lowered financing costs help to boost the returns that can be paid to the SPV equity shareholders. Debt refinancing may be carried out by renegotiating the terms of the PFI project loan with the original lenders or by prepaying the existing loan and raising debt on new better terms taking into account the lower risks. One way of bringing about refinancing may be by replacing existing debt with more debt on improved terms and paying the equity shareholders most of their original investment. This has the effect of increasing the shareholders' return on the PFI project.

Reduced interest rate costs in the markets reflecting a slowdown in the economy may be another factor that might attract the SPV to refinance their deal with the lenders. Although, it might seem at first sight that significant gains can be reaped from such an exercise in the form of debt with a lower interest rate, there will be a balancing breakage cost from prepaying the fixed rate finance or interest rate swap on the original debt. Yescombe argues that only a reduction in the credit margin by the lenders can result in refinancing gains.[184]

### 2.6.10 Control and Flexibility

Once the preferred bidder for a PFI project has been selected and approved, the public sector is then locked into the long-term PFI contract. It is important for the public sector body that is offering services to the end customer through PFI deals, to retain flexibility in delivering those services.[185] New technology that could improve service delivery

might create the need to make changes to the PFI deal to adopt the new technology. Does the public sector have control over making such changes? How flexible are PFIs? It is difficult to envisage every possible eventuality and to come up with a comprehensive PFI contract that accommodates all possible future changes is even more difficult.

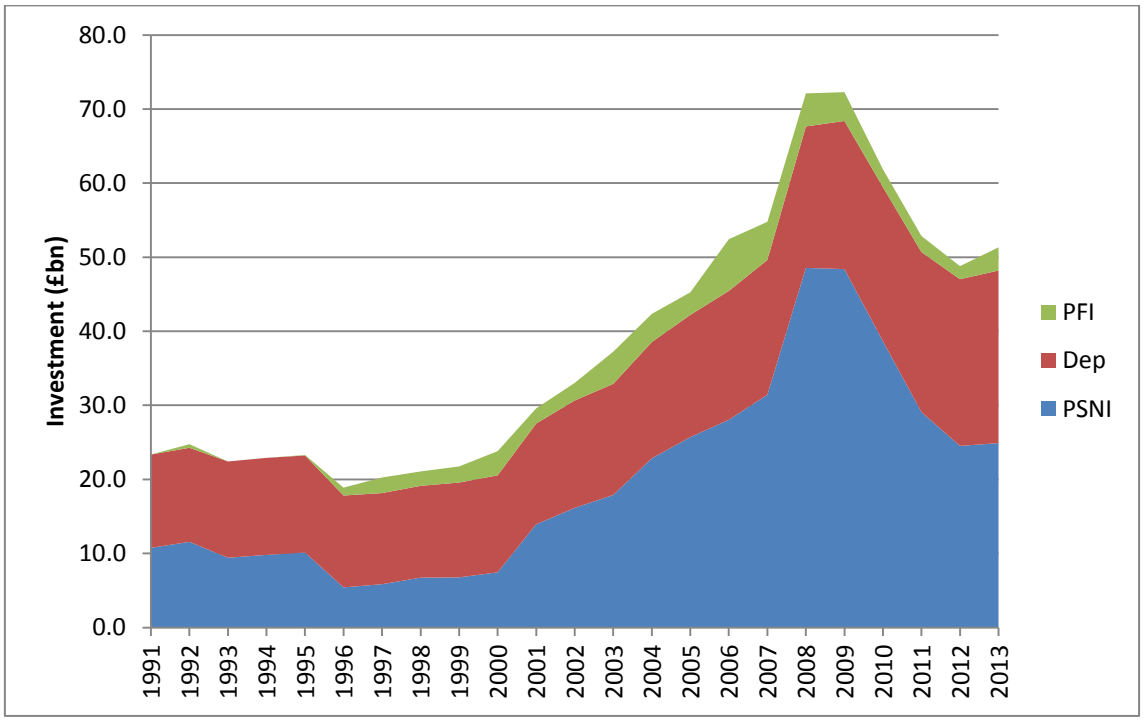
Upon construction of the PFI capital asset, there is an inherent inflexibility in the use that the asset can be put to due to its nature. Any significant changes to the PFI project would involve considerable time and cost. [186] To overcome this dilemma, flexibility is built into PFI contracts but such flexibility is highly dependent on the quality of the partnering relationship between the parties. PFIs are partnerships where decisions are not taken unilaterally. Changes can be negotiated between the parties as there is more commitment, openness and trust between the parties than in conventional contracting arrangements. But where the risks of such changes are borne by the public sector, then the latter will also bear the cost for it.

In the case of a deadlock between the public and the private sector, the public sector can pull out of the PFI deal if it so wishes but it will have to pay compensation to the private sector for the loss of profits from the PFI contract. This compensation would normally be the present value (after discounting) of the forgone profits and it will depend on the proportion and performance of the PFI deal completed at the time of termination. Thus the control that the public sector can exercise is dependent on the partnering agreement between the two parties.

## 2.7 Scope of UK PFIs

Over the decade up till 2007, the UK government's commitment to providing 'world class' public services has resulted in ever increasing amounts of funds being invested in public infrastructure and services to the extent that since 1997, total UK investment in public services has trebled.[187] Although a large proportion of investment is carried out via the conventional procurement method, procurement using PFIs is a small, though not insignificant value, representing about 4-16% of total investment in public services (see Figure 2.7).[188]

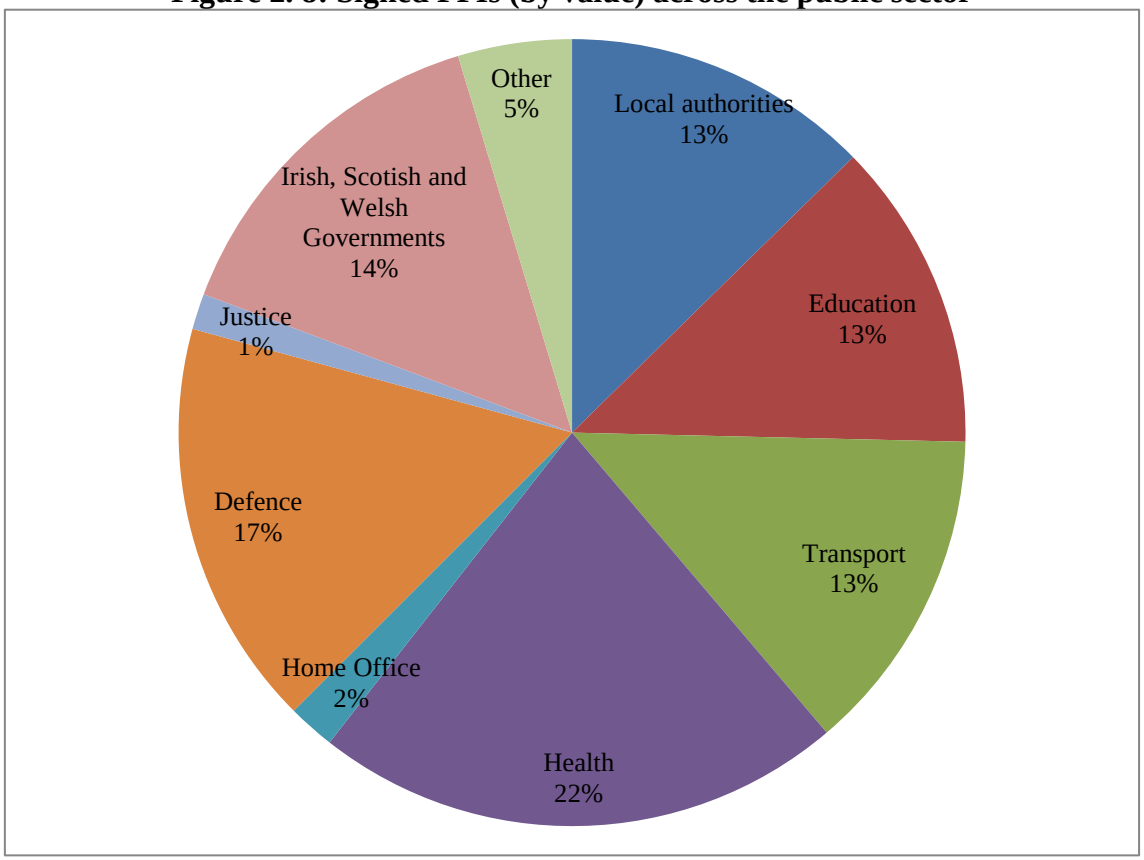
**Figure 2. 7: PFIs as a proportion of total investment in public services**




Source: Computed by author but taken from *GOV.UK* [online]. GOV.UK, 2013. Available at: https://www.gov.uk/government/publications/private-finance-initiative-projects-2013-summary-data [Accessed 1st October 2014] and *Institute for Fiscal Studies* [online]. Available at www.ifs.org.uk/ff/lr_spending.xls [Accessed 1st October 2014].

Despite their relatively small contribution in public service investment, PFIs play an important role by delivering projects on time and within budget. With over 700 PFI projects having a total capital value exceeding £54 billion, it is anticipated that as the investment in public services increases in the future, so will the use of PFIs.[189] PFIs have been used across all government sectors where they have been judged to provide better value for money than other procurement methods (see Figure 2.8).

**Figure 2. 8: Signed PFIs (by value) across the public sector**




Source: Author and data taken from HM Treasury. Private Finance Initiative Projects: 2013 summary data [online]. HM Treasury, 2013. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/267590/PU1587_final.pdf [Accessed 5th September 2014].

The Department of Health, have to date, signed over 120 PFI contracts with the private sector whose capital value is in excess of £11 billion, and is by far the largest user of PFIs in the UK public sector. [190] It has used PFIs to establish about 185 new and refurbished health facilities.[191] Most PFI deals within the Department of Health have been of infrastructure-type associated with the design, construction and maintenance of hospitals although some PFI deals provide catering and cleaning services.[192] The focus of PFIs within this department is not on the provision of clinical services but rather on support and maintenance functions.[193] PFIs in healthcare took some time to develop because of uncertainty surrounding the protection of investors by the government, should health units operated by the NHS go bankrupt.[194] PFI investment in the health sector is seen as the key in development of the NHS and is regarded by some within the

NHS as the 'only game in town'.[195] Nevertheless, PFIs in NHS have been severely criticised on the basis that they are too expensive relative to the cost of similar services provided by the public sector.

However PFIs are already making a significant contribution to improving the quality of school estates. Schools in England account for one-third (by value) of the total local government PFI commitment and PFI has become the main source of funding from the Department for Education and Skills (DfES) for new and replacement schools.[196] Over 500 primary and secondary schools are part of PFI deals that have been signed or are in procurement.[197] The DfES has to date signed over 160 PFI transactions whose capital value stands at £6.8 billion.[198] Typical PFIs in schools are 25 to 30 years long and are of the Design, Build, Finance and Operate (DBFO) type where operations such as construction and ground maintenance, caretaking, security, cleaning, utilities and catering are performed by the PFI contractor.

The Fire Service, that is a vital public service, has also been using PFIs. Cornwall County Fire Brigade were one of the first fire services to use PFIs when in 2001, they entered into a PFI contract with Pyramid Accommodation Services to re-build 10 existing fire stations, undertake refurbishment of a couple of stations and clear up a maintenance log on a number of fire stations.[199] The PFI contract between the London Fire Brigade (LFB) and TLG Fire Services is a 20 years PFI deal in which the latter will carry out maintenance and management of LFB's vehicle fleet comprising of over 500 vehicles and operational equipment of over 20,000 items.[200]

The Prison Service is an executive agency of the Home Office and is responsible for holding those remanded or sentenced to custody by the courts in England and Wales.[201] The Prison Service has signed a total of nine PFI deals for new prisons; two of which are being built and the rest are operational. PFI prisons that are operating hold about 5,000 prisoners that account for 7% of the total prison population.[202] Most of these operational PFI prisons experienced problems at the start but they have improved their performance ever since. The operational performance of these PFI prisons is gauged better than the publicly operated prisons; the PFI prisons that were delivering better

performance than their public counterparts were excelling in three areas: the treatment of prisoners, more flexible deployment of staff and use of new technology. [203] The Institute of Public Policy Research in its report highlighted that prisons were one area where there is evidence to suggest that PFIs are offering significant gains.[204]

## 2.8 Need for PFIs

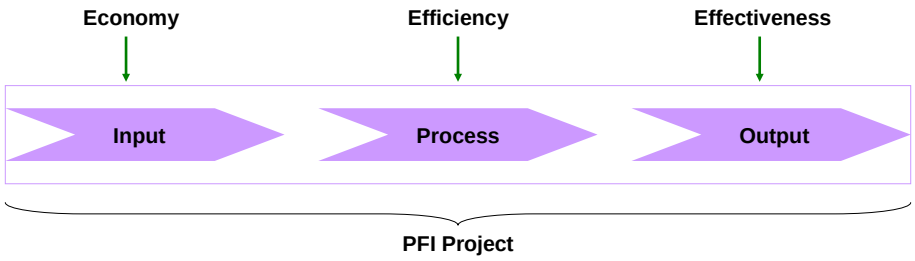
PFIs have been heavily criticised for being more expensive than publicly financed projects, for the inability of the private sector to offer public sector services with public service ethos and for allowing public sector bodies to use creative accounting to place PFIs as off-balance sheet items enabling them to hide their weaknesses and report a more favourable financial position and performance.[205] Despite these criticisms that have erupted ever since PFIs were introduced, the principal objective of PFIs is to deliver world class public services that offer better value for money than conventional methods through the use of private finance, the transfer of risks to the private sector whilst being flexible to accommodate any necessary changes to the public service requirements.[206]

## 2.9 Value for Money Demystified

It has earlier been cited that the over-arching objective of PFIs is to provide value for money. The term 'value for money' (VfM) is not new; it has been widely used in speech for some time. The great public concern about the way local government raised and spent income brought VfM to the fore. Over the decades, the system of finance in local government has not only been the subject of investigations but also been severely criticised on occasions. As far back as 1973, internal and external audits in local government have been pursuing value for money as part of their code of practice.[207] The Chartered Institute of Public Finance Administration stated that it is the responsibility of the internal auditor in local government to review, appraise and report on the degree to which a local government organisation is safe-guarded from losses through poor value for money amongst other types of losses.[208] In 1991, as part of an initiative by the Department of Trade and Industry (DTI) to help UK companies to become more efficient and effective and thus increase their global market share, the DTI published a guide entitled 'Better Value for Money from Purchasing'.[209]

Since the advent of PFIs, the Treasury has strongly declared its intention of pursuing PFI options only where they offer better value for the taxpayers' money.[210] While there is agreement on the need for VfM in the public sector, a deeper understanding of what the term VfM means is paramount. VfM is not an exact science; it is normally construed as not paying more for a good or service than appears to be justified by its quality and availability.[211] The Royal Institute of Public Administration and Peak, Marwick, Mitchell & Co jointly sponsored a seminar entitled 'Value for money audit' in 1981 in which by consensus, VfM was defined to be a combination of the three Es - economy, efficiency and effectiveness.[212] Despite its age, it is widely endorsed that VfM is measured by the three Es. PFIs, like any project, can be broken down into three main components: inputs, process and outputs; with each of the Es focusing on one component (see Figure 2.9).

**Figure 2. 9: Components of a PFI project and the three Es**




Source: Author

The criterion of economy means the provision of a good or service at any given time at minimum cost. Put more formally, economy may be defined as "minimising the cost of resources used for an activity having regard to the appropriate quality".[213] In other words, it means doing things at low cost. The requirement here is that a good or service is assessed in terms of the resources needed expressed in monetary terms. More importantly, the 'economy' dimension of VfM focuses on the inputs (in terms of the cost of resources) of an activity (see Figure 2.9 above). In comparison to the other two Es, economy can be seen to be the easiest dimension of VfM measurement. It is no

surprise that in the UK, most of the VfM exercises have been focussed mainly on the economy element of VfM. In order words, most of the attention is paid to the reductions in expenditures and savings in resources.[214] Thus from the economy perspective determining the degree to which a PFI option provides better value for money compared to traditional procurement would involve a comprehensive identification and evaluation of the costs and benefits of the two approaches. On face value, this would mean comparing the PSC with the NPV of private sector bids to determine which of the two is cheaper. A major problem with such a comparison is that those costs and benefits that are very difficult to express in monetary terms (such as say the angst of the public who view PFI to be a waste of taxpayers' money) will not be evaluated. This would bring inaccuracy in the assessment of VfM if it were entirely based on the economy dimension.

The second element of VfM deals with efficiency. It refers to the relationship of inputs and outputs. Efficiency is about achieving maximum output from the resources provided for meeting the requirement. In order words, efficiency is about doing things right. As such, efficiency is the component of VfM that focuses on the internal activities of an organisation - the 'process' (see Figure 2.9 above). For instance, in the case of a manufacturing plant, efficiency measures may measure the level of raw materials wasted, the proportion of defective outputs, the number of labour hours spent on each unit of output etc. All these measures assess the health of the internal activities - the 'processes'. Measuring efficiency is based on the assumption that acceptable standards/criteria exist and more importantly that these standards are relevant. With the passage of time and advancement in technology, standards become outdated. For instance, before the advent computers, the standard of efficiency in an accounts office for recording financial transactions will be irrelevant in this age when such activities are computerised. Establishing standards is easier in situations where the inputs and outputs are of a repetitive nature (e.g. a factory producing motherboards for computers). However, where inputs and outputs are non-repetitive, such as in the case of a mortgage advice offered by a bank, measuring efficiency becomes challenging because each piece of mortgage advice will be unique.

Some relationship between efficiency and economy is evident but it must be noted that although economy can be achieved without achieving efficiency, the reverse is not possible. This is because, it is possible to go down the PFI route and provide services that cost less to the government than the traditional procurement route and thus the PFI route will be considered to provide better economy. But if the services produced by the SPV are of poor quality and insufficient to meet the needs of the public sector, the PFI route is inefficient - it is not proving the right outputs. As cited above, measuring the degree to which the outputs are right hinges on the quality and quantity of the services provided. Measuring quantity of outputs with respect to PFIs will involve the availability of the service provided by the SPV. In the case of a PFI hospital, the quantity may be measured by the number of in-patient beds available in a given period of time. The quality of a service can be measured against a given standard specification of what it ought to be. Thus measuring the efficiency would mean higher quantity of services of the right quality from a given set of resources.

Finally, effectiveness is an ends-oriented concept that gauges about the extent to which predetermined aim and enabling objectives for a particular activity are achieved. It is about the achievement of the right results (outputs) from the usage of resources (inputs) and organisational operations (processes). Various authors have their own concepts of effectiveness but what is common to all is that effectiveness is about accomplishment of aim and objectives.[215] This common definition of effectiveness gives it a clear focus but what is more significant is the establishment of the aim and objectives against which the output will be measured. Thus lying at the heart of effectiveness is establishing the aim and objectives. The objectives are the various milestones that once achieved will automatically result in the overall aim being realised. Good management practice cites that objectives should be specific, measurable, achievable, realistic and time bound (SMART). Where objectives exhibit these characteristics, measuring effectiveness becomes easier. For instance, the aim of a PFI hospital may be to provide quality health service to the people. The enabling objectives may be building a hospital that is within easy reach of the public, open at convenient hours, affordable by the people, successful treatment of ailments etc.

Achieving effectiveness without economy and vice versa is possible. For instance, a PFI hospital may be offering the best quality health care but also be very costly to run. To this effect, some writers have fine-tuned the notion of effectiveness to mean cost effectiveness.[216] In order words, a project like a PFI hospital is deemed to be effective not only if it achieves the enabling objectives but also that it does so at a reasonable cost. Thus effectiveness may be expressed as output in value divided by input in economic terms. In this equation, the two factors are not measured in the same units and more importantly, output in terms of value is difficult to measure particularly in the case of the public sector due to the absence of a market.

It is noteworthy that in the private sector, prices of goods and services could signal their cost effectiveness; the absence of a market in the public sector makes it difficult to measure cost effectiveness. This is so because in a relatively competitive market environment, if a product from a producer does not meet the need of a consumer, the latter will not buy it - indicating that it is not effective. This means that although it might be cheap (economy) and of the right quality (efficiency), the fact that it will not serve the need of the consumer tells that it is not effective. E.g. a VCR that is both cheap and of high quality but because it cannot play a DVD disc, it does not meet the need of the consumer hence it is not effective. The case gets more challenging with a PFI providing public services because of the absence of markets.

In light of the above discussion on value for money and its constituents, how PFIs are assessed in term of the value for money properties that they exhibit? Are there any metrics that could be employed against which PFIs could be graded?

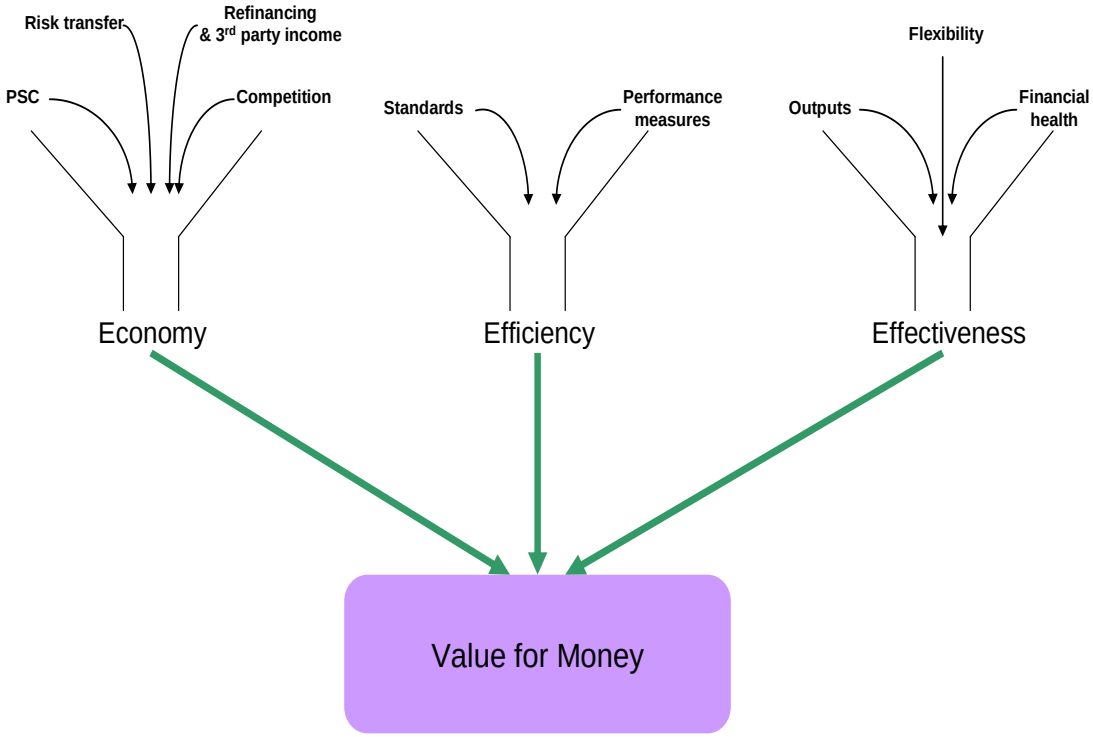
## 2.10 Testing Value for Money in PFIs

Based on the concept of value for money (VfM) comprising of the three Es, a number of metrics need to be devised to allow the measurement of the VfM characteristics of PFIs. The National Audit Office report on "...getting value for money from procurement…" sheds some light on metrics that could be used to assess VfM in projects.[217] According to this report, VfM is achieved through establishing long-term partnering arrangements, managing risk, building a strategic approach and managing performance amongst

others. The Value for Money Guidance published by the Treasury states some generic factors that drive VfM in PFI projects.[218] These include whole life costs, the use of an output specification approach, optimum allocation of risks, flexibility in PFI contracts and the existence of sufficient skills and expertise in both the public and private sectors. A study commissioned by the Treasury Taskforce in 2000 identified that apart from cost; there are a range of drivers including risk transfer, long-term nature of contracts and competition amongst others that contribute towards generating VfM in PFI projects.[219]

The VfM drivers, identified above do not pinpoint which of the three Es they actually measure. They just give a broad range of metrics to assess value for money in PFIs. It has already been established that VfM rests on the three Es: economy, efficiency and effectiveness. In order to measure VfM, it is vital to identify the metrics that measure each individual 'E'. Once this is done, the metrics will in turn measure the VfM exhibited by PFIs. Based on the various drivers, the metrics for measuring economy, efficiency and effectiveness have been developed as shown in Figure 2.10.

**Figure 2. 10: Value for Money model**




Source: Author

### 2.10.1 Economy

Economy focuses on the inputs to a PFI project and relates to costs. The cost of a PFI project when measured against the public sector comparator (PSC) gives an overview of the expected savings a PFI solution produces. It was discussed earlier that due to its inherent nature, the accuracy of the PSC is debateable. Therefore, although such a comparison could be inaccurate, it will nonetheless, give a rough estimate of the cost and benefits, if any, of a PFI solution. More importantly the VfM characteristics of PFIs with respect to economy will be assessed through other metrics as well. One such metric is the level of competition at the bidding stage. VfM is undoubtedly easier to demonstrate where there has been an effective price-led competition.[220] When there are several tendering groups, then competition gets fierce and market forces help to

eliminate waste and could drive down the cost put forward in the final bid. The quality of competition can be measured by the number of bidders and the number of bidding rounds. More importantly, examining any upward revision of bids by the preferred bidder should be done very closely as this practice would neutralise the cost advantages that competition yields.

Private sector partners are often criticised for the high level of bidding costs associated with PFI projects. The Adam Smith Institute found that the tendering costs as a percentage of total costs are generally higher for PFIs than for traditionally procured projects.[221] One of the reasons for higher cost of tendering is the time taken between choosing the preferred bidder and the final signing of the deal. For the PFI to be profitable to the preferred bidder, such costs will be passed on to the public sector body paying for the PFI project thereby making the latter more expensive. Due to its significance, another metric that has a bearing on the 'economy' will be the proportion of bidding costs as a percentage of the total PFI project cost.

Refinancing PFI projects is commonplace. It comes about as a result of significant reduction in risks associated with the project once the PFI becomes operational. Traditionally, the refinancing gains were reaped only by the private sector but after 2001, PFI contracts spell out that any such gains will be split equally between the private and public sector partners. The public sector gains from refinancing in the form of lower unitary charges to the private sector. Additionally, some PFI projects are such that they can offer services to other parties other than the public sector body. This enables the private sector to have a larger customer base and thus helps to reduce its costs from the third party income. The potential of third party income on the unitary charge paid by the public sector needs to be measured to assess the extent to which they help in driving down the cost of PFI projects for the public sector.

The basic tenet of PFIs is risk transfer from the public sector to the private sector. Risks associated with cost and time overruns are some of the common risks transferred in PFIs. This is a stark shift in practice from traditional procurement where the public sector authority shouldered all the risks. However, this attraction of risk transfer in PFIs

does come with a price tag. A premium, factored into the unitary charges, is paid to the private sector for taking on the risks. It is essential that to maintain VfM in PFIs, the premium paid is reasonable. Thus there is a strong need to carefully cost the risks that are being transferred to the private sector and measure those against the premium paid to determine whether or not VfM is being achieved. PFIs by their very nature are projects where the public sector authority specifies the outputs and leaves it to the private sector to decide on how it will deliver the services. In other words, PFIs provide the private sector the opportunity to innovate by giving them the freedom to exercise their professional expertise to the fullest extent in determining the best approach to deliver the PFI outputs. The use of an output-based specification can not only lead to improved design and service delivery but it can also help in reducing the costs of PFI projects.

### 2.10.2 Efficiency

The focus of attention here is the output with respect to the input i.e. how well are the outputs being generated with respect to the inputs. Performance measures and incentives are the key metrics that will be used to assess the efficiency aspect of VfM of PFIs. The metrics discussed above directly relate to the cost of a PFI project. Performance measures and incentives are about creating standards for operational activities of PFIs and measuring actual performance against those standards. The role of incentives is to attract better performance by the private sector in meeting the prescribed standards of output. In PFI projects, performance measures are mutually agreed between the two parties and the objective is to ensure that the private sector contractor is financially punished for failing to provide service of the required standards.

In their absence, standards of performance will have to be developed such that they monitor every aspect of the delivery of service in PFI projects. For instance, a performance standard in case of a PFI hospital might be the time it takes for a patient to be seen by a doctor. Although the performance measures will be specific to individual PFIs, efficiency of a PFI project can be measured by carrying out a statistical analysis of the failure by the private sector in meeting those agreed standards. Moreover, a statistical analysis of the use of incentives to bolster performance will give a clearer

picture of how the incentives enable the private sector to meet the required standards. More importantly, measuring the efficiency aspect of VfM will get more weight by also examining the suitability of the different standards that have been set.

### 2.10.3 Effectiveness

Effectiveness is about ensuring that the objectives of PFIs are met. In order words, that a PFI project achieves what it was intended to achieve. It is only by gauging the extent to which a PFI project meets the objective can the effectiveness of the PFI project be measured. Thus the first metric to be used to assess the effectiveness of PFIs will be examining the extent to which the outputs delivered by a PFI project meet the requirements of the public sector authority. PFIs are long-term contracts and it is thus crucial to ensure that they are effective over their contract duration. This allows the outputs delivered by PFIs to continuously meet the requirements set by the public sector authority. The long-term nature of PFIs promotes a longer planning horizon than traditional procurement for the private sector. Moreover, the fact that the private sector will be paid only when the output meets the standard criteria set by the public sector, it goes without saying that the onus is on the private sector to ensure that the PFI delivers effectively not only once it becomes operational but also over its entire life.

The long-term nature of PFIs means planning over the long-term and this gets less accurate the longer into the future it relates to. Changing circumstances (both internal and external) might force changes to be factored into the original PFI contract to make sure that outputs delivered are synchronised with the changing requirements of the public sector body. This brings in the question of flexibility in PFI contracts. It was reported in 2008 by the National Audit Office that operational PFIs suffer from exorbitant costs of making changes to them in light of changing requirements of the public sector.[222] Thus lying at the centre of effectiveness of long-term PFIs is the degree of flexibility that they offer over the duration of the contract. Making changes to a PFI project would incur costs on the part of the private sector that will be passed onto the public sector. Thus it is vital to measure not only the capacity of PFI projects to assimilate changes but also to take into account the cost dimension of making those changes. The essence of partnership relationship in PFIs is that the parties should work

towards the mutual benefits of the two sectors. Therefore measuring the degree of flexibility in PFI contracts will also test the quality of partnership relationship enjoyed by the two sectors.

Another important factor that ensures that PFIs are effective is the financial health of the special purpose vehicle (SPV) that delivers the PFI. It is important that the SPV is financially muscular to weather any storms that may arise over the duration of the PFI contract. This will be done by calculating financial ratios from the corporate results of the financiers, the holding company of the SPV and the SPV itself. The focus of the ratio analysis will be on the profitability, liquidity and gearing ratios as these are the main ratios that can reveal the financial robustness of a company. The profitability ratios will reveal the potential of the financiers, the holding companies and the SPV to make profits as well as reveal any areas where problems might lie. Due to the fact that accruals accounting is used in the commercial sector, the profitability ratios will be dependent on the accounting statements of the financiers, the holding companies and the SPVs that are prepared under UK and International Financial Reporting Standards. Some subjectivity is employed when preparing accounts under these standards and it is therefore essential to exercise caution when computing and interpreting the financial ratios.

The strength of the liquidity position will reveal the quality of the profit-making potential of the companies. Moreover, it will also highlight any liquidity problems that might occur in the future thereby bringing into question the viability of the companies over the duration of the PFI contract. Furthermore, the long-term viability of the companies will be assessed by computing the gearing ratios that reveal how easy it is for the companies to honour debt finance. Additionally since the SPV is a highly geared entity, it is crucial to assess the ability of the SPV to pay the interest charges as they fall due. The financial ratio analysis will be based on computing the various ratios over the past short to medium-term and trends will be identified in an attempt to discover what the likely financial future of the companies may turn out to be.

## 2.11 Assessing the Effectiveness of PFIs

Given the limited scope of this thesis, of the three Es, only the last E i.e. effectiveness of PFIs will be examined. In the previous section, it has been discussed that there are a number of ways in which PFI effectiveness can be assessed. Furthermore, due to the narrow scope of this research, PFI effectiveness will be assessed through the examination of the financial strength of SPVs using financial ratios. The financial ratios technique to be used in this assessment will be built up in Chapter 5.

It was cited earlier (in 1.9.4) that Defence PFIs can be grouped into four categories such as accommodation, equipment, training and other. Additionally, it was also stated in the previous chapter (in 1.9.4) that each and every Defence PFI will be examined except for those that have been in operation for less than six years, do not operate using SPVs and those whose SPV's accounts are not prepared under UK Accounting Standards. Consequently, the SPVs delivering Defence PFIs will be evaluated using financial ratios. Based upon these results; specific and more general conclusions will be drawn relating to the individual PFI projects and Defence PFIs as a whole respectively.

## 2.12 Summary

In summary, customer-supplier relationships in the private sector have evolved from adversarial relationships (where business is conducted at arm's length) to partnership relationships. In spite of the differences between the public and the private sectors, partnering relationships between the two sectors have been employed in the form of public-private partnerships (PPPs) that although comprise of a small proportion of total investment in the UK public services but nonetheless are significant. The Private Finance Initiative (PFI), one of the most popular PPPs, utilises private sector finance to invest in public services. Risk transfer which is the basic tenet of PFIs is achieved in a number of ways. Value for money benefits which is the overarching objective of PFIs is about the three Es: economy, efficiency and effectiveness. The extent to which PFIs exhibit value for money can be measured using the range of metrics for each of the three Es. Having gained an in depth understanding of PFIs, chapter 3 takes the research of PFIs a step further by tracing the developments of government policies that have

transformed the UK public sector over the past three decades resulting in the use of PFIs as a means to deliver public services.

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# CHAPTER 3

## REFORMS IN THE PUBLIC SECTOR

### 3.0 Introduction

The last three decades (from 1970 to 2000) witnessed transformational changes in the management of the public sector. A major overhaul of the inefficient public sector was pioneered by the Thatcher government in the late 1970s and continues to date. The underlying premise of successive governments has been to move the UK towards providing world class public services by involving the more efficient private sector in the provision of public services. This public-private sector integration has been developing over the years through a variety of ways and PFIs (that were explored in detail in the previous chapter) are just a continuation of this growing trend of commercialisation in the public sector. PFIs are not the first mechanism to use private sector to deliver public services. In fact, over the last three decades, numerous relationships between the private and the public sector have been employed to achieve that. The purpose of this chapter is to examine those mechanisms in detail throwing light on advantages and more importantly the problems/challenges they have been posing. This will set the scene to analyse why PFIs were needed as another means to deliver public services.

To set the appropriate scene for the examination of the role of PFIs in shaping the public sector, the chapter starts off with section 3.1 that outlines the nature of the parliamentary democracy that exists in the UK. This is important as it will reveal how governments in the UK function, how laws are made and/or amended and the government's role in the operation of the public sector. To run public sector organisations, governments need money that is always scarce and the level of money (public finance) raised by governments (through taxation and borrowing) has an effect on the state of the economy (in the form of inflation and unemployment). Therefore it is not possible to raise unlimited amounts of public finance to run public sector organisations; the latter have to be properly managed so that the public purse and the economy are not strained. Section 3.2 reveals the state of public finance in the 1970s

that alarmed the Thatcher government in 1979 when it came into office. Sub section 3.2.1 throws light on the mechanisms that have been in place for public finance management.

One key aspect for any financial management regime is decision-making. Better financial decisions can be made only when the accounting/cost information on which they are based is of better quality. Section 3.3 explores the advantages but more importantly the flaws in cash accounting system that had been in place in the public sector until late 1990s. This section examines the advantages of the accruals accounting system over the cash accounting system. It also explores the driving force behind the decision to abandon the cash accounting system in the public sector and replace it with the accruals accounting system, called Resource Accounting and Budgeting (RAB). It ends with an assessment of how RAB has changed the public sector. The introduction of RAB was just one of the many significant changes that have been shaping the public sector. Sections 3.4 and 3.5 examine other major government polices/initiatives introduced over the years in the public sector; their effects and failures, if any. All these developments although made some contribution in driving successive governments to deliver better public services, but it was felt that there was room for improvement. This improvement, a continuation of the past, was the introduction of Public-Private Partnerships (PPPs) and in particular the Private Finance Initiative (PFI). Sections 3.6 and 3.7 discuss PPPs and the role of PFIs in the public sector as chalked out by the government. This is followed by an introduction to the role of PFIs in the defence arena in section 3.8.

## 3.1 The Nature of UK Parliamentary Democracy

Although the UK has a 'constitutional monarchy' alongside a democratically elected parliament, interestingly, there is no written constitution. The relationship between the state and its people dwells on statue law, common law and conventions.[1] As a result, the existence of most government departments and much of the civil service and civil service agencies has no basis in law. Thus changes in these areas can easily be done through executive decisions that ultimately get reported in the parliament as job done. Other government departments and government authorities, like the Inland Revenue and

Customs and Excise and the National Health Service have a legal foundation that is by way of an Act of Parliament. Their legal basis does not necessarily hinder a government from making changes to them; a government that commands majority in the parliament can change or even abolish such government authorities and departments. In democracies with a written constitution, a two-thirds majority or a special majority may be needed to amend a clause of the constitution. The consequence of such atypical parliamentary system is that the government is fused with the parliament and thus there is (to an extent) no formal restraint on the legislative power of the executive. Changes in public administration can often be executed without any clear policy or legal basis on which to judge them.[2] For instance, the formation of executive agencies was based on a two-paragraph statement by the Prime Minister to the Parliament; it was neither debated nor voted on.[3]

The Parliament comprises of the House of Commons (the lower house) and the House of Lords (the upper house). The parliament defines the structure of public administration; it spells out the functions of all public agencies and departments and is their ultimate source of authority. In practice, the role of the parliament has been restricted over the last century owing to executive dominance. Nevertheless, one of the core functions of the Parliament is legislation: primary and delegated legislation. Walkland describes the former as a process over which the ruling government has predominance.[4] A bill needs to be approved by both houses before it becomes an act of Parliament i.e. law. Most government bills are passed with few changes as the government will almost always have parliamentary majority to force through the bills. The procedures in the House of Commons inherently provide few opportunities to members of parliament to effectively scrutinise bills as the government can use tactics such as closure and the guillotine to curtail discussion. Moreover the scarcity of time further reduces the opportunity to have detailed debate on each bill.

Consequently, there is a rising trend in the use of delegated legislation - a process by which Parliament delegates its law-making powers to ministers and administrative agencies such as public departments and local authorities to make changes to an already existing Act of Parliament. The original Act will have provisions to allow changes of

varying degrees to be made to it through delegated legislation. Delegated legislation thus enables the government to make changes to a law without having to pass a completely new Act of Parliament. This form of legislation, called statutory instruments, could for instance involve alerting the level of fine or adding more detail to an Act of Parliament. Nevertheless, it gives ministers the powers to issue regulations that have legal force. The increased use of delegated legislation stems from its advantages. It helps to reduce pressure on parliamentary time and becomes extremely useful when circumstances arise where making laws speedily becomes essential. Since every eventuality cannot be anticipated by the Parliament when drafting a bill, delegated legislation helps the government to deal with unforeseen circumstances.

Delegated legislation is made by people who are not democratically elected and as such there is always the possibility for legislation to be passed that might be unreasonable. Moreover, obscure wording in the legislation can lead to difficulty in its understanding. Therefore, it is essential for there to be some form of checks and balances over statutory instruments that are generated. There are several ways in which parliament controls the issuance of statutory instruments one of that is through the use of affirmative and negative resolutions.[5] In the case of the latter, a statutory instrument is shown to Parliament and if there are no objections raised within 40 days, it becomes law. On the other hand, if there are objections, then the statutory instrument is debated in both Houses and/or in a Standing Committee. Under an affirmative resolution, a statutory instrument may not become law unless specifically approved by Parliament. An instruction will be put under the Parent Act notifying that the issue will have to be debated before it becomes law. As such, under affirmative resolution procedure, delegated legislation only becomes law after it has been voted for by members of Parliament thereby making it more democratic in nature.

Additionally, two complimentary committees in the House of Lords keep a watchful eye on delegated legislation.[6] These are the Delegated Powers and Regulatory Reform Committee (that examines whether the ministers have the powers to promulgate delegated legislation as per the original Act of Parliament) and the Merits of Statutory Instruments Committee (that examines the delegated legislation promulgated).

Additionally, the Joint Committee on Statutory Instruments (that comprises of members of both Houses of Parliament) only considers the legal compliance of each statutory instrument (delegated legislation) vis-à-vis the parent Act. Therefore, although these committees thoroughly check each piece of delegated legislation, they have no power themselves to change or abolish a statutory instrument. They can only offer advice to the Parliament. It is upon the discretion of the members of the Parliament to table questions or motion for debate with respect to the statutory instruments.

The Parliament could agree to the statutory instrument and yet pass a critical resolution whereby the Government is called to change their policy. If this happens, the Government is required to report to Parliament about what it will do but it is not under obligation to be in agreement with the Parliament. On the other hand, the Parliament has the power to reject a statutory instrument entirely. But for this to happen, some members of Parliament who are part of the government must oppose the statutory instrument. Such situations rarely happen because they make functioning of the government difficult.[7]

In addition to the legislative role of the government, the latter has historically been engaged in the provision of a range of public services through several government departments, local authorities and nationalised industries - collectively referred to as the public sector. In the 1970s, the public sector was involved in the provision of defence, social security, education, health and justice amongst other public services. In those times, the public sector accounted for between 35% and 47% of the UK economy and therefore had a significant footprint.[8] The ultimate responsibility of the several sections of the public sector was borne by ministers who were accountable of their affairs to the public through the Parliament. Given the significance of the public sector, its financing is crucial in ensuring that government is able to deliver public services that are essential for the viability and growth of the economy that would resultantly enable higher living standards to be enjoyed by the population.

## 3.2 Troubling Public Finance in the 1970s

Public finance is about the getting (income) and spending (public expenditure) of money by the government through the public sector. The government's principal source of income is taxation and public expenditure is on the direct provision of public services, benefits and grants. When expenditure is more than taxation, the gap is filled through government borrowings. In technical terms, parliamentary authorisation is necessary for raising taxation and for government spending. This section will explore the trends in public taxation and spending over the last three decades in an attempt to understand how the public purse has been managed over this period.

In the 1970s, when public expenditure oscillated between 35% and 47% of Gross Domestic Product (GDP)[9], inflation in the UK had got out of control; it averaged 13% annually and peaked at 25% by the mid-1970s.[10] Although in nominal terms, the GDP of the UK economy was rising in the 1970s, GDP growth in real terms fluctuated and averaged approximately 2.43%.[11] Accompanying these developments were high and rising unemployment, monetary growth and a substantially expanded public sector.[12] High levels of inflation usually coincide with high levels of employment. This is because the economy is working at its fullest. However, in the UK in the 1970s, two opposites were in force: high inflation and high unemployment. Against this bleak economic backdrop, the Conservative government (elected into office in 1979) issued its first Public Expenditure White Paper in which it strongly emphasised the need to correct public spending that was the core of Britain's economic difficulties.[13] In the past, based on the Keynesian economics, increases in public spending were erroneously assumed to achieve economic growth with the inevitable result of a growing burden of taxes and borrowing. Lower taxes and a reduction in public sector borrowing (resulting in lower levels of spending by the state) would help release the inflationary pressure from the economy and would help restore stability.

Tax to GDP ratio fluctuated between 33% and 39% over the two decades from 1979.[14] Examining this ratio over this two decade period, a sudden rise is seen from 33.5% in 1979 to approximately 39% in 1981; with the overall downward trend thereafter. It closed at about 36% at the end of the Conservatives government in 1997.[15] Any gaps

between revenues (sourced through taxation) and government spending are bridged through government borrowing - the public sector borrowing requirement (PSBR). The PSBR stood at 5% of GDP at the start of the Conservatives government in 1979.[16] Over the next two decades, this ratio ranged widely, reaching a low of 0.5% of GDP in 1987/88 and touched a high of 7.3% in 1993/94 before setting back to very close to the starting figure of 5%.[17] These figures show that although there were wide movements in taxation and PSBR as a percentage of GDP over the two decades, the Conservative government was not entirely successful in significantly reducing them. Talbot argues that this shows the real difficulties of the government to reduce the burden of the public sector.[18]

On the other end of the spectrum of public finance, the Conservative government spending levels (as a percentage of GDP) oscillated around 42%; it peaked to 46.4% in 1982 and reached its lowest of 37.9% in 1988.[19] In comparison, public expenditure levels (as a percentage of GDP) have been on the decline since the end of the Second World War and averaged around 36%. In the decade spanning 1969 - 1978, this figure started climbing up and reached approximately 43.2%.[20] This shows that public expenditure was reduced only marginally during the Conservatives' tenure. However, between 1980 and 1994, the composition of public expenditure witnessed substantial changes giving rise to clear winners and losers. For instance, spending on social security and welfare, public order and safety as well as health showed marked rises. But on the other side, defence spending and subsidies to manufacturing industries and transport and communications were the losers.[21]

### 3.2.1 Management of Public Finance

Having explored the two sides of public finance under the Conservatives, it is worth throwing light on the public finance mechanisms that were in place for its management. The modern system of public finance management originated from the Plowden Report in 1961.[22] This system, called Public Expenditure Survey (PES) has in essence been the basis for managing public finances ever since by successive governments. Over the years and up until 1997, there have been very few substantial changes to this system; albeit this system has been subject to many smaller changes. The techniques used in this

system have been progressively developed and the scope of this system has been changing over the years. Unlike the system of public finance management preceding the PES where only annual plans were made, under the PES, regular surveys of public expenditure as a whole were made for a number of years ahead. This had the advantage of bringing together, for ministerial consideration, the entire spending plans that had to be financed through taxation and borrowing not just for the year ahead but for several years ahead. As a result, future costs could be foreseen and appropriate actions could be taken in advance to avoid possible financial problems in the future.

On an annual basis, in about April each year, a benchmark figure for spending in the next financial year (that spans from April to March) would be agreed. This benchmark figure (the control total) covered about 85% of the relatively stable public expenditure.[23] Thereafter, between May and September, expenditure limits for each government department is reached through bilateral negotiations between each department and the Treasury. These negotiations are done under the supervision of a Cabinet sub-committee that is chaired by the Chancellor of the Exchequer.

By November, departmental totals (called Supply Estimates) have been agreed by the Cabinet and the Treasury submits the approved Estimates to the House of Commons for vote on accounts. During the course of the year, if additional money was required by a department, permission was sought from the Parliament through the presentation of Supplementary Estimates at various times during the financial year. In this way, the Parliament is the body that grants authority (through two Acts of Parliament) to the government to spend the funds as detailed in the Estimates. These Estimates become part of the budget in March.

Refinements to the PES system by the Conservatives were limited to the control systems comprising of staffing level controls, running cost controls and delegation of more budgetary authority. The improvements in the PES system from these ‘fine tuning’ adjustments did not help the Conservatives (whose tenure in office spanned more than 18 years) to realise their ambition of reducing the size of the public sector; there were no significant reductions in taxes, public sector borrowing and public

spending. However, the reforms they made had started paying off such that by the time Labour came into office in 1997, the UK economy had been registering impressive economic performance. On the strength of domestic demand, annual GDP growth had reached 4% while inflation had declined close to the official figure of 2.5%.[24] Since the peak in 1993, unemployment (as a percentage of GDP) has gradually decreased; reaching 7.5% in 1997.[25] Therefore, the two opposite macroeconomic factors (which were high inflation and high unemployment that were characteristic of the UK economy in the late 1970s) had been reversed to a great extent when the Labour government was elected into office in 1997.

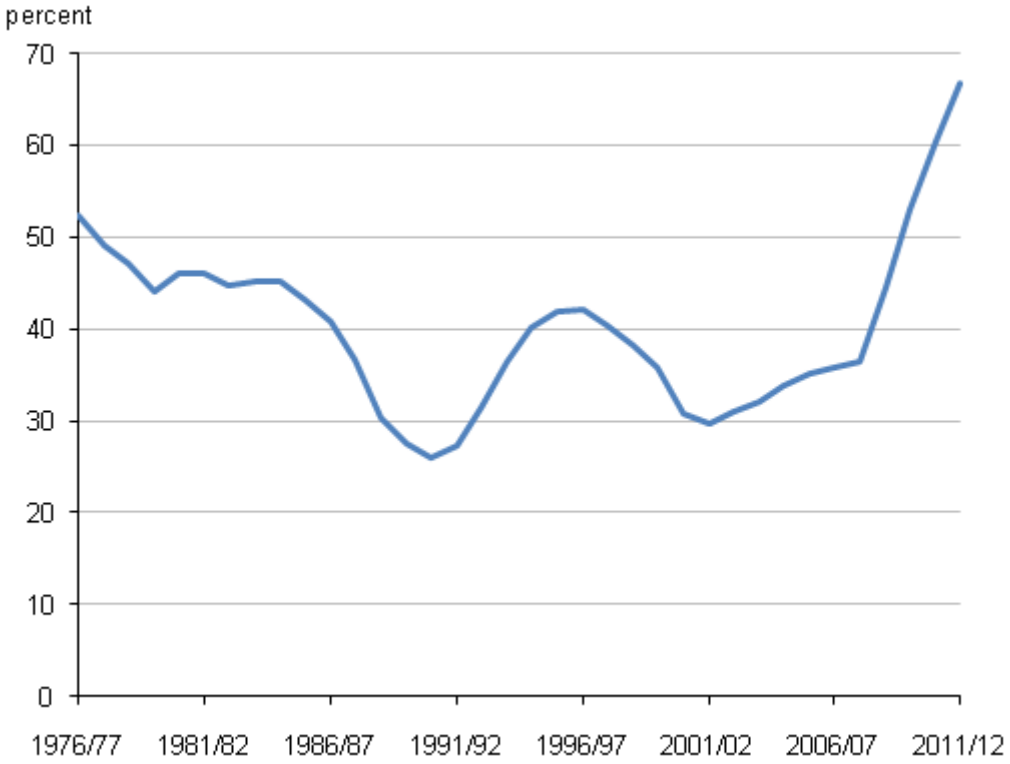
Starting from a much better economic position vis-à-vis their predecessors, the new Labour government, early in their tenure, laid out a revolutionary way in which public finances would be managed. As soon as the Labour government took office in 1997, the government embarked on the comprehensive spending review (CSR). The CSR was a form of zero-based budgeting (ZBB) that started from the premise that no costs or activities should be factored into the budget for the coming year(s) unless it has been justified. This was the first time that a zero-based budgeting approach was used by any government. In the past, the traditional incremental approach to budgeting was practised where budgets for coming years were computed by adding a percentage to the costs of the previous years.

Through the CSR, the Labour government reviewed its baseline expenditures, assessed their effectiveness in delivering the Government's long-term objectives and set budget totals for the coming years. It could be argued that the CSR was a resource hungry approach as it is based on the assumption that the entire public sector is starting afresh in creating its budgets and as such it involved a complete investigation of the costs of the entire public sector. However, the CSR provided the opportunity to carry out a comprehensive analysis of all the needs, activities and costs of the public sector. In this way, the cost effectiveness of all current and future activities would be evaluated and unnecessary activities/costs would be deleted; creating more efficient budgets. On the contrary, under an incremental approach to budgeting, such unnecessary activities/costs could have been needlessly accumulating in the budgets over the years.

In parallel with the implementation of the CSR, the Labour government set for itself certain guiding principles for public spending. The first of these was the golden rule that stated that over the economic cycle, the government will borrow only to invest and not to finance current spending. The basis of the golden rule rested on the concept that the economy only expands through capital investment. Thus to increase economic growth, public sector capital investment is important. When taxes are insufficient to cover investment plans of the government, money will be borrowed. The investment will be expected to result in increased economic activities; thereby accelerating economic growth. Taxes from the amplified economic activities will help payback the loans. In this way, over the economic cycle, the loans will pay themselves back and thus the government will not be burdened with huge amounts of debt.

Government debt carries a cost that is the interest payments over the term of the debt. Taking on too much debt will spiral up the interest payments thereby making it more difficult for the government to afford. Thus there was a need to place a cap on the maximum level of money that could be borrowed for investment. This requirement gave rise to the second rule for public spending. This was the sustainable investment rule that stated that net public debt as a percentage of GDP will be kept (over the economic cycle) at a stable and prudent level of 40%. With these two guiding principles, the Labour government aimed to move the UK economy to a brighter future. An analysis of the public sector net debt as percentage of GDP over 1990s (shown in Figure 3.1) reveals that the downward movement of this ratio during the early years of Labour in office was a continuation of the declining trend that originated in the early 1990s. It is a known fact that there is normally a time lag between implementation of a new economic policy and its resultant effect on the economy.

**Figure 3. 1: Public sector net debt as a percentage of GDP**

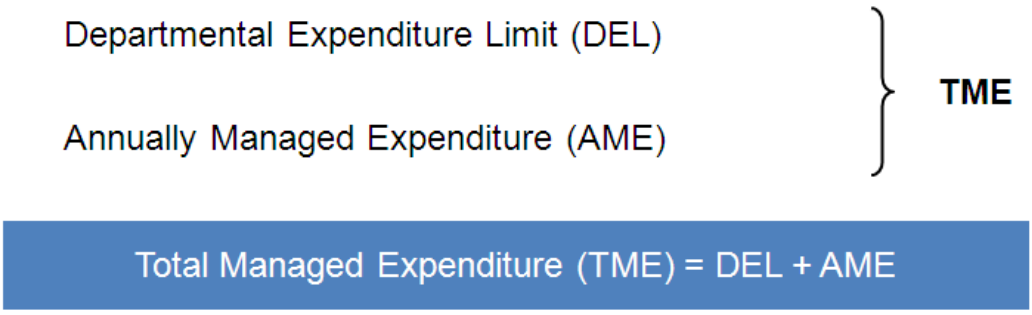



Source: Office of National Statistics. How public sector debt as a percentage of GDP has grown over the last 10 years [online]. Office of National Statistics, 2013. Available at: http://www.ons.gov.uk/ons/rel/psa/public-sector-finances/july-2013/sty-public-sector-debt.html [Accessed 18 March 2014].

Thus continuation of the downward trend in the ratio during the early years of Labour could in part be attributed to the momentum of the economic policies of the previous government. Figure 3.1 further shows that after reaching its low in 2001; the public sector net debt ratio has been climbing up ever since reaching 39% in 2007. The unprecedented scale of the financial crisis of 2008/09 and the government's rescue plan to bail out the economy has resulted in the level of debt breaching the 40% mark. In the absence of the financial crisis, it is difficult to expect the already rising trend in the debt levels to have terminated before reaching the 40% mark. The financial crisis has only acted as a catalyst in expediting the crossing of the 40% level. It would therefore not be a surprise to infer that the Labour government breached its own sustainable investment rule by failing to halt the rising level of public sector net debt.

On the spending front, to ensure consistency with the two guiding principles discussed above, the New Labour government introduced changes to public expenditure plans. The total annual expenditure across the public sector was expressed as total managed expenditure (TME). The TME has a matrix composition as shown in Figure 3.2. Firstly, based on the level of predictability, the TME is split into two types of expenditures. That which could be forecast over the near future with reasonable level of accuracy was referred to as the departmental expenditure limits (DEL); that which was subject to unpredictable fluctuations was classed as the annually managed expenditure (AME). The DEL for each public sector department set the total annual amount to be spent by the department. Annual DEL budgeted totals are issued every three years and reviewed every two years. The DEL comprised of the cash and accrued cash costs such as expenditure on staff, utilities, rent. End year flexibility in the DEL was to allow unspent amounts in one year to be carried forward to the next year over the three year planning horizon.

**Figure 3. 2: Total Managed Expenditure (TME)**




Source: Author

On the other hand, AME comprises of expenditure items such as social security payments, EU contributions and debt payments. Due to the inherent volatile nature of these expenditures, it is difficult to forecast AME totals over long timeframes. Therefore, the AME totals are pronounced on an annual basis but reviewed twice every year. In terms of their relative sizes, over the years 2011 to 2013, DEL accounted for

about 97% of TME and AME accounted for the remainder 3%.[26] The essence of the split of the TME into DEL and AME was to allow public sector departments to manage the predictable separately from the volatile types of expenditures. Additionally, the three year DEL budgets and the end year flexibilities would provide government departments to plan over longer timeframes.

Secondly, the TME is also split into separate budget totals for current and capital spending within the DEL and AME. Current spending refers to all in-year expenditures whose benefit is released within 12 months. Thus current spending would include payments of staff salaries, utilities, rent etc. On the other hand, capital expenditure involves spending that spans over more than 12 months and more importantly, the benefits are released over the medium to long-term. As an example, the spending on the construction of a building would be classed as capital expenditure. Due to the time lag in deriving the benefits, current spending pressures are more immediate than pressures for capital spending. As such there is the tendency to use funds set aside for capital investment to cover current spending. If this happens, capital investment (that is necessary to boost economic activity) is likely to be compromised. To prevent capital investment from getting compromised, departments across the public sector are prohibited from using capital budgets for current spending. However, an exception to this rule was made in 2008 when the MoD was struggling to balance its books and was allowed (with the Treasury's approval) to use about £2 billion of its spare capital budget to cover current spending.[27] This example shows that although the spending controls introduced in the public sector by the Labour Government may have been well-intended, they could create challenges as well.

The strength of any financial management system rests on the quality of financial information inputted i.e. the better the financial information, the better decision-making would be possible. It is thus important to examine the process of reporting/collection financial information that has been practised in the public sector over the last three decades.

## 3.3 RAB: The New Way to Account for Public Finance

In forwarding the Conservative government's commitment to progressively bringing improvements in public sector efficiency and effectiveness, the former proposed the introduction of accruals based accounting across the public sector to better manage public spending; with the hope of bringing about improvements for the taxpayer and the economy as a whole. The intention of the government to replace the cash accounting in the public sector with the accruals accounting was announced through the White Paper 'Better Accounting for the Taxpayer's Money: Government Proposals - Resource Accounting and Budgeting in Government' in 1993. What makes accruals accounting superior to cash accounting? The following paragraphs explore the strengths and weaknesses of these two accounting systems.

Cash accounting system is the older of the two. It developed on the premise that financial transactions are recorded only when cash changes hands. Thus, if a sale is made to a customer on credit, the sale will only be recorded when it has been paid for in full by the customer. Moreover, a piece of equipment bought or a service (such as the provision of electricity) consumed is only recorded when the respective payments are made; not when use of the equipment starts or consumption of a service commences. This inherent simplicity of cash accounting not only makes the recording of transactions easy, but auditing of accounts becomes effortless since the focus is exclusively on cash alone. It is no wonder that cash accounting had been used by both the private and public sectors across the world for centuries.

The main use of accounting information is for financial decision-making. Under cash accounting, the focus is only on cash and its movements. However, expenditure/income activities may be independent of cash payments/receipts respectively. This happens when there is a time lag between the consumption of a resource and the payment for it. Thus, if a piece of equipment is bought and use of it starts before payment for it is made, expenditure for the equipment, under cash accounting, will not be recorded on the date when use of the equipment started. Instead, it will be recorded when payment for the equipment has been made. The timing of the payment for the equipment may be moved backwards or forwards depending on the terms of sale negotiated with the seller.

Consequently, under cash accounting, expenditure for the equipment will be recorded based on the terms of sale negotiated with the seller. It will not be based on the activity (which is the use of the equipment) which causes expenditure to be incurred. A similar case applies to income as well. The mismatch between expenditure/income activities and cash payments/receipts (due to timing differences between the two), makes accounting information recorded on cash basis vulnerable to inaccuracies.

All expenditures are incurred with the hope that they will provide a return at some point in the future. In some situations, such as the purchase of fixed assets, expenditure could be incurred in one year whilst the benefits from it are realised over several years. The cash accounting system would record the entire expenditure on a fixed asset in the year of purchase but none in those years in which benefit from the use of the fixed asset continues to be realised. In this way, the cash accounting system erroneously recognises that the fixed asset was bought and fully utilised in the same year. It fails to recognise that although the fixed asset had to be bought in one-piece and in one transaction, the cost of using the asset continues to be incurred over the remaining economic life of the fixed asset. In order words, under the cash accounting system, the expenses with respect to the fixed asset would be overstated in the year of purchase and understated in the subsequent years of utilisation of the fixed asset. This erroneous accounting information generated under the cash accounting system stands out as another of its drawbacks.

The failure of cash accounting to differentiate between expenditures on fixed assets (where benefits accrue over several years) and current expenditure (where benefits are realised immediately) also extends to the case of liabilities. Since transactions are recorded only when cash changes hands, any amounts that is due to a third party such as a supplier or a bank, do not show in the accounts. Along the same lines, future committed expenditures such as compensation payments or clean-up liabilities are not recognised under the cash accounting system because they will only be recorded when they are paid. In order words, there is no recognition of liabilities in cash accounting. This results in further misrepresentation of the financial position of an entity that prepares its accounts using the cash accounting system.

Apart from its simplicity of use and ease of understanding, the cash accounting systems suffers from serious drawbacks as discussed above. The inaccurate information (from these significant shortcomings of the cash accounting system) when used would result in poor financial decision-making. For better decisions, more accurate and complete information is needed - the accruals accounting system attempts to deliver such information. The basic tenet of accruals accounting is that expenditure and income is recognised when incurred and earned respectively rather than when payment is made or received. Thus income and expenditure are recorded as they occur irrespective of when cash changes hands. For instance in a sale on credit, the sale is entered into the accounts when the invoice is generated rather than when the cash is collected. Similarly, an expense is recognised when services are consumed or when a workday has been logged by an employee, not when the wage is paid.

In complete contrast to the cash accounting system, the accruals accounting system attempts to match income and expenditure to the relevant activities that generate them. In this way the accounting information generated is positively correlated to the activities/operations of an entity. Referring to the example of the purchase of the fixed asset (discussed earlier), under accruals accounting, expenditure on a fixed asset is attributed to each year of the asset's useful economic life by way of depreciation charges. Depreciation is a measure of the wearing out, consumption or other loss of value of a fixed asset arising from use, passage of time, technological obsolescence or environmental changes. This allows each year's accounts to reflect the cost of utilising the fixed asset. Under accruals accounting the unfair practice of charging the purchase cost of a fixed asset wholly in the year of purchase as done under cash accounting is absent; thereby giving more complete accounting information for each year.

Since expenditure is recognised based on the activities that create them, accruals accounting provides for recognising liabilities where there is a timing difference between expenditure incurred and its subsequent payment. Accruals accounting correctly recognises the difference between investment expenditure (where benefits accrue over several years) and current expenditure. Additionally, contrary to the cash accounting system, all future committed expenditures are shown in the accounts as

liabilities under the accruals accounting system. All these qualities of the accruals accounting system enables more accurate accounting information to be generated, from which better decisions could be made. But is accruals accounting free from any weaknesses?

The matching of income and expenditure recognition with the relevant activities under accruals accounting requires some guidelines to be chalked out that describe how this matching exercise is to be practised. For instance, there could be, in theory, many different ways to cost the usage of a fixed asset over its economic life; each having a different impact on the reported profit/loss of an entity. Additionally, these 'rules of play' would have to be adhered to by all entities that report their financial performance and position on an accruals basis to ensure comparability of accounting information. These guidelines take the form of accounting standards that are established by the Accounting Standards Board (ASB) in the UK. In developing a new accounting standard covering a specific area, a Discussion Paper is issued by the ASB for comment by interested parties such as professional accountancy bodies. After receipt of comments on the Discussion Paper, the ASB issues a Financial Reporting Exposure Draft (FRED). Subsequent to consideration of comments on the FRED, an approved Financial Reporting Standard is issued. To date, the ASB has issued several accounting standards covering a wide range that includes how to account for fixed assets, lease assets, intangible fixed assets and presentation of accounts.

Within the corporate structure, it is a legal requirement for companies to appoint independent auditors who would ensure that the company accounts reported on accruals basis have been prepared in accordance with the relevant accounting standards. The owners of companies are usually divorced from its management as they elect the directors to run the companies on their behalf. Thus the auditor's report offers the owners/shareholders of a company the confidence in the financial reports prepared by the directors of the company. In spite of these checks in place, the nature of activities (that generate costs/incomes) keeps on changing with time such that it becomes impossible for accounting standards to comprehensively define how every eventuality should be accounted for. Thus there are situations that arise when subjective judgement

has to be exercised when applying existing accounting standards. For instance, FRS 12 defines how provisions (that are liabilities of uncertain timing or amount) are to be accounted for. The uncertainty depends on the probability of a relevant event(s) occurring; in some cases it becomes difficult to calculate this probability objectively and subjective judgement has to be exercised. This practice of exercising subjective judgement inculcates a margin of error in the information reported under accruals accounting.

Thus although, accruals accounting is superior to cash accounting in terms of the accuracy of information that the former produces, the exercise of subjective judgement in some areas limits this superiority. There may be situations where a company looks very profitable on the books whilst it may be suffering from acute cash flow problems. This may have resulted from selling too much on credit and being slow to collect the cash from the customers. If the overly optimistic view (based on subjective assessments) that customers will pay in the future fails to materialise, the company could be forced into bankruptcy. Moreover, reporting under accruals accounting becomes more tedious than under cash accounting; the former requires more professional accountancy skills to interpret and apply the relevant accounting standards. Despite the complexity of accruals accounting vis-à-vis cash accounting, the private sector abandoned cash accounting and adopted the accruals accounting system several centuries ago; the public sector did the same but only in the last decade.

### 3.3.1 Accruals Accounting in the Private and Public Sectors

Both the private and public sectors had been using cash accounting but in the 16$^{th}$ century, the private sector started moving towards accruals accounting in response to two main economic pressures. Firstly, carrying out business through limited liability companies was a fairly new development. In contrast to sole trader and partnerships where the owners are the managers of the business, the corporate structure distances the owners from the managers of the business. This new business structure necessitated the requirement by the owners for better and more transparent costing information on how well companies were managed. Secondly, the growing competition in the private sector drove a requirement for better cost management information so as to enable better

decision-making. However, the absence of the profit motive in the public sector environment and the environmental, transactional and organisational differences between the public and private sectors (discussed in section 2.2.1) inhibits the public sector to sense such economic pressures. Resultantly, the public sector continued using cash accounting over the centuries in spite of its weaknesses.

The move to accruals accounting, referred to as resource accounting and budgeting (RAB), in the public sector was first proposed by the Conservative Government in 1994 with the Green Paper "Better Accounting for the Taxpayers' Money"[28]. The intention to switch over from cash accounting to RAB was not in isolation; rather it originated from the basic principles of sound financial management laid down in the Financial Management Initiative in 1982.[29] In this Green Paper, the government underscored that accruals accounting will provide better information to government departments thereby helping them make improved management decisions in terms of use of their resources to fulfil their objectives. Active and vigorous pursuit in the implementation of RAB was witnessed when the Labour Government (that came into office in 1997) declared its commitment to deliver world class public services.

### 3.3.2 Problems with the Cash Regime

Cash-based accounting that had been in practice for centuries had become inadequate for managing modern public services because of its inherent weaknesses. For instance, under cash accounting, investment in capital assets (that involve substantial amounts of cash outflows upfront) in any year would significantly hit the budget for that year. As a result, long-term investment (that is crucial for providing world class public services) was perceived to be expensive and therefore there was an in-built bias against them. Moreover, under cash accounting, there was the absence of incentives to manage and fully utilise capital assets once they come into use because there was no recognition of cost of using or holding capital assets. As cited earlier, the timing of cash payments was not necessarily synchronous with the actual activity; cash accounting in the government departments gave a misleading picture of the costs incurred within a given time period. More importantly, under cash accounting, no account was taken of future committed expenditure. This was because cash accounting reports only those expenditures in

relation to which cash outflows have occurred. Thus future clean-up liabilities, lease payments or future PFI unitary charges were absent from the accounts of government departments and thus the interests of future taxpayers and generations were not fairly represented.

### 3.3.3 How RAB Addresses the Drawbacks of Cash Accounting in the Public Sector

RAB is based on the accruals concept whereby the full consequences of economic activity are accounted for; not just the cash flows. The accounting standards adopted by private companies (adapted where necessary to reflect the specific circumstances of public sector departments) form the basis on which RAB operates. From 2009 onwards, RAB requires public sector departments to use IFRS. Accounting under RAB removes some of the major limitations of the cash accounting system in a number of ways. RAB introduced a new approach to capital spending and asset management. The Government holds an extensive portfolio of assets (to the tune of several billion pounds) to enable it to deliver its objectives and responsibilities. The weaknesses of the cash accounting system have contributed in part to an overall decline in the quality and quantity of public sector capital assets over the three decades prior to the adoption of RAB; public sector net investment had fallen, in real terms, from a peak of nearly £29 billion to just £5.3 billion in 1996-97.[30] RAB attempts to correct this through the annual depreciation charges for capital assets and the cost of capital charge. Annual depreciation charges reflect the annual cost of using up an asset. The cost of assets is therefore spread over their useful lives rather than just the year when they are purchased. This gives a much truer picture of the cost of running public sector departments. It also helps to correct the negative bias towards capital investment (that cash accounting promoted) since the purchase price of capital assets does not hit the accounts for the year of purchase alone. The cost of capital charge levied on public sector departments' net assets reflects the opportunity and financing costs of capital. In order words, the cost of capital charge signifies that there is a cost to the government of sourcing finance (through taxation or borrowing) and that resources tied up in assets could be (re)deployed elsewhere. Both depreciation charges and cost of capital charges indicate that holding onto assets is no longer free as under the cash regime. These two charges (that hit public sector

departments' budgets) encourage departments to make assets work for them and get rid of idle assets.

Under the cash-based system, because departments were required to operate within annual cash limits, there was an incentive to try to delay payments; giving a distorted picture of the departments' costs. RAB requires that incomes and expenditures are reported in the public sector departmental accounts as and when they occur; not when the associated cash flows occur. This helps to capture the costs of public sector departments more accurately than under the cash-based system. Additionally, in complete contrast to the cash regime, the accruals-based nature of RAB requires that all future expenditures/liabilities are reported in the accounts. This provides a more complete image of the financial position of public sector departments; it also ensures that the interests of future taxpayers and generations are fairly represented.

### 3.3.4 Adoption of RAB in the Public Sector

The public sector adopted RAB in two steps. In the first step public sector departmental accounts were reported under RAB in parallel with cash accounts; from 1998/99 to 2000/01. In the second step, from 2001/02 onwards, all public sector accounts were reported only under RAB. The aim of the three years transition was to allow managers and staff in the public sector to get acquainted and trained with reporting under RAB. Furthermore, this three year period catered for any problems with RAB accounting to be resolved without significantly impeding the reporting of financial performance of public sector departments. Public sector departments are required to prepare annual accounts under RAB. The annual accounts among other things comprises of an operating cost statement (showing the net resources consumed during the year), a balance sheet (showing the assets and liabilities of public sector departments), and a cash flow statement (analysing the cash outflows and distinguishing between capital and current cash flows).

### 3.3.5 Is RAB Working?

It is suggested that the introduction of accruals accounting (under RAB) would help to improve the quality and consistency of information offered to decision makers in the

public sector.[31] Likierman argues that in providing more relevant information for resource allocation, RAB allows a more strategic approach to public expenditure by enabling public sector departments to cost the resources that they use and match them with the outputs that they deliver.[32] The government asserts that as a result, better resource allocation decisions at the aggregate level among competing priorities coupled with full cost information is potentially achievable in the public sector under RAB.[33] Furthermore, the government professes that the provision of better and more focussed information through RAB has resulted in enhanced accountability to Parliament and better control by operational managers.[34]

The National Audit Office report entitled "Managing resources to deliver better public services" disclosed that RAB has enabled public sector departments to identify inefficient assets and dispose those no longer required (as there is a holding cost of assets), better schedule expenditure to match service needs and provided more reliable data on the value of assets and their contribution to service delivery.[35] It was further revealed in this report that RAB encouraged public sector departments to make small annual incremental changes in resource allocations; for larger shifts of resource allocation, other incentives or mechanisms were needed. Since all the financial accounts are prepared using the same accounting standards across the public sector, RAB has facilitated the comparisons of costs of each department's activities with other departments. The accounting standards used by the public sector have in principle been adopted from the private sector. This commonality between the two sectors allows the cost information of government departments to be comparable with those in the private sector. Such comparisons help most in situations when public sector departments are engaged in make or buy decisions.

Despite these articulated benefits of RAB, there are several potential problems associated with it. Accruals accounting involves the interpretation and application of relevant accounting standards. This makes them more complicated (than cash accounting) and the implementation of accruals accounting requires more professional accountancy skills in the public sector. The lack of financial skills and awareness prevalent amongst non-finance staff in the public sector poses a significant hurdle in

realising the full benefits of accruals accounting.[36] The situation gets worse when in some public sector departments (such as the Department for International Development) the finance director does not sit on the management board, whilst in other departments (like the Ministry of Defence) there was no qualified finance director up until 2009. Furthermore, in order for RAB to be more beneficial, the Parliament (that approves departmental resource accounts annually) needs to be trained in understanding accruals accounting. Jones argues that Parliamentary staff and National Audit Office officials are concerned that the increased complexity of RAB may have negative repercussions for Parliamentary accountability and control.[37]

The inherent nature of the accounting standards creates room for subjective judgements vis-à-vis their application. This has been witnessed in the private sector (as was seen in the case of Enron and WorldCom) and since the public sector accounting standards are derived from the private sector, consequently, there is room for manipulation of accounting information presented under RAB. As a result, departmental resource accounts may not portray a true picture of their financial performance and position. More specifically the case of PFIs is one such example. Their accounting treatment in the public sector was governed by two accounting standards: SSAP 21 and FRS 5 (these were discussed in section 2.6.8). Based on some subjective interpretation of these accounting standards, some PFI assets and their associated liabilities (that are the future unitary charges payable over the entire duration of PFI contracts) were not recognised as assets and liabilities in the public sector departments' books. Resultantly, an incorrect picture of the future liabilities of the government was reported. This failure to report the future liabilities of the public sector was also the problem with cash accounting (although with the adoption of IFRS across the government since 2009, most PFIs and their associated liabilities are now recorded on government books and thus future liabilities are now more correctly presented). Thus in this respect, accruals accounting had been (for some time) no better than its predecessor.

One of the problems with cash accounting was that it did not offer incentives to the public sector to maintain and fully utilise capital assets once they come into use since there was no recognition of the cost of using up or holding such assets. RAB corrected

this negligence towards capital assets by subjecting assets to depreciation and cost of capital charges. Thus under RAB, there is recognition of the cost of using up or holding onto assets. This, as revealed in the National Audit Office report, rightly encouraged departments to identify and dispose of idle assets. RAB is therefore seen to successfully drive public sector behaviour towards untying resources held in idle assets and deploy them elsewhere. However, this cost of holding or using up assets could potentially be damaging in situations where a public sector department gets rid of idle assets (to save on depreciation and cost of capital expenses) but is later required to buy them (because a need for them has arisen) at a higher price.

The long and short of this is that although cash accounting is simple to operate and understand, its inherent limitations inhibit better decision-making information to be derived from it. On the other hand, more informed decisions can be made using information provided under RAB; bearing in mind, that just like any system, RAB's superiority is limited by its intrinsic drawbacks.

While on the one hand, private sector financial reporting and management systems were adopted in the public sector (in the form of RAB), on the other hand, other market mechanisms such as privatisation and competitive tendering were introduced and pursued by successive governments over the last thirty years.

### 3.4 Privatisation in the Public Sector

The economic history of the last half century has been characterised by a rising and subsequent declining trend in the scale and scope of government intervention in the economy. Following the Second World War, the labour government of that time substantially increased the size of the public sector by embarking on extensive nationalisation of key industries that included coal, gas, electricity, steel, aircraft and shipbuilding industries in an attempt to prevent private entrepreneurs from exploiting customers by pursuing their profit motive.[38] In the face of the destruction caused by the war, it was felt that there was need for a co-ordinated and an efficient approach towards utilising resources in rebuilding the country by having a single supplier - the state. Competition was believed to be costly and wasteful to both consumers and taxpayers.

Nationalisation would offer general economic and social benefits such as improved quality of public services, lower prices and the protection of jobs. The labour government had a strong conviction that the nationalised industries would be more efficient, economical and would promote greater equality of wealth distribution. It was perceived that the accountability of state corporations to the minister and in turn to parliament would fuel the commitment of such corporations to work in the best interest of the public since the latter would indirectly (through the election of parliament) be controlling the performance of nationalised corporations. Private sector companies, it was believed, create value for their shareholders that may be achieved at the expense of public interest. Did the labour government's theory in favour of nationalisation work?

The actual performance of the nationalised industries was found to be lower than that of the private sector. In financial terms, from 1960s to 1989, the total return on capital invested (this financial ratio indicates the overall profitability of an entity) of the state-owned industries was substantially lower than the private sector.[39] In fact, as highlighted by Miller, the return on capital of the nationalised industries was hovering just above zero from the early 1970s.[40] This shows that the nationalised industries were struggling to keep themselves afloat. The rate of rise of prices of goods and services (provided by these industries) was faster than the national inflation rate. Moreover, in the decade of the 1970s, employment costs per employee in large nationalised industries increased quicker than the national average without equivalent increases in employee productivity. This was due to the ability of the trade unions to secure pay rises for employees in the nationalised industries without productivity increases.[41]

This appalling performance of the nationalised industries is believed to have been caused by several factors.[42] Firstly, the intertwined social and commercial objectives of nationalised industries created problems for their managers to prioritise goals and develop strategies to achieve them. Even if such goals and the struggles to achieve them are developed, the regular political interference from the government in nationalised industries in its operations as well as through setting unrealistic goal-setting denied the managers the freedom to pursue their genuine objectives.

Additionally, the activities of nationalised industries with their large appetite for capital was burdening the Public Sector Borrowing Requirement with the result that occasionally macro-economic targets were to be achieved at the expense of restricting funding available to these state-owned industries. Shackleton[43] argues that what made the situation even worse was that the government used political rather than economic criteria to allocate funding among the different public sector industries. This meant that money did not reach where it was most needed in financial terms. Moreover, because the financial position of these industries was underwritten by the State, survival was not based on success. The wide acknowledgement of this concept across nationalised industries failed to offer incentives to improve on their performance. This is in complete contrast to the situation prevalent in the private sector where the market forces will compel an under-performing/loss making company to quit; profit is crucial for the survival of private sector organisations - it is their lifeline.

### 3.4.1 Privatisation in Action

Irrespective of the authenticity of the causes of dismal performance by the nationalised industries, the long-term effect of the nationalisation programme in the UK manifested itself in the form of lack of competition in the important segments of the economy, limited choice for customers, higher prices for goods and services offered by nationalised firms, customer dissatisfaction, low employee morale and productivity.[44] Between 1950 and the late 1970s, several governments tried, albeit unsuccessfully, to improve the performance of nationalised industries. Attempts were made to create an artificial market-type environment by imposing standards and controls. Real market forces that are heavily based on the profit motive create real pressures on organisations in the commercial sector to progressively post improving performance. The underpinning factor here is that commercial organisations' survival lies in their ability to make money. As cited earlier, successful performance of state organisations is not crucial for their survival. This important difference explains why the simulated market forces failed to yield long-term solutions to the problems of nationalised corporations.

Against the bleak performance posted by state enterprises, the Thatcher government that came to power in 1979 accused the state industries for being wasteful, highly

bureaucratic and subject to political intervention thereby rendering them inefficient.[45] The government of the time diagnosed that the environment in which state enterprises operated was such that the necessity of satisfying customers, the incentive to cut costs and the risk of liquidation were simply absent. It was convinced that the structure of the nationalised industries contributed significantly to Britain's economic problems faced in that decade.

To put matters right, public sector reforms were needed. The Thatcher government initiated the privatisation programme as a strategy to deal with the poor performance of nationalised industries and in so doing it hoped to create a free-enterprise economy that would bring prosperity to the nation. The government recognised that the private sector was more efficient and innovative (due to the profit motive and resultantly competitive nature) and less subject to political intervention and that market forces rather than ministers were better judges of economic decisions.[46] The government was not alone in sensing that privatisation was the way forward. Surveys conducted between 1973 and 1980 showed that there was a general rising trend in the public in support of privatisation; nationalisation was increasingly disapproved over this time by the public.[47] By making state corporations accountable to private investors, privatisation was expected to result in better efficiency and management of these corporations. More than just a transfer of state owned businesses to the private sector, the privatisation programme was part of an overall plan of the Thatcher government to create a truly free-market economy in the UK.

It is interesting to note that although the Thatcher government was very inclined towards privatisation that would significantly change the role of the state in the economy; for unknown reasons it was not preceded by any green paper, white paper or a definitive piece of legislation on privatisation. The concept of privatisation was even absent from the Conservative Party manifesto for the 1979 elections. Abromeit adds that it was not until several years later that the Thatcher government styled privatisation as the key element of their policy.[48] Thus the official goals of the privatisation programme were spelt out in piece-meal fashion over many years. Four years after coming into office, the government announced that privatisation would cause a fundamental shift in

the balance between public and private sector territories; that it would significantly improve the welfare of the society through better pay and working conditions for employees, exciting opportunities for consumers and new freedom for the mangers of the privatised industries. This generalised set of objectives of privatisation was succeeded in 1986 by a more detailed one - that essentially the privatisation programme had two interconnected objectives: to promote competition and improve efficiency. In explaining the underpinning theory of these two objectives, the government argued that through competition market forces would exert great pressures on companies to increase their efficiencies. The government further argued that benefits of privatisation of natural monopolies would be realised through regulatory arrangements that take the place of market forces to ensure that prices are held down and consumers receive better goods/services.

Another key objective of the privatisation programme was to promote wider ownership of wealth in the economy thereby giving people, employees and the general public, a direct stake in the success of British industry and also help erase the distinction between owners and workers. The underlying premise was that when shareholders are managers, employees as well as customers, their pressures on better returns on their investment would give the privatised firms to seek maximum efficiency and maximum competitive terms from their suppliers. The alignment of the objectives of everyone linked up together through collective ownership of industries was expected to move the UK economy out of its problems.

Over the years, several other objectives of privatisation sprung up such as giving customers more choices, better services and lower prices, decreasing government control of business and lower political interference in the management decision-making, lowering national government's debt and generating new tax revenues from the privatised firms. Additionally, the government argued that privatisation would help release government funds to be used elsewhere. The key question here is: can privatisation achieve all these objectives?

### 3.4.2 The Privatisation Process

The privatisation programme commenced rather modestly in 1979 with the sale of five percent of the shares of British Petroleum. It was not until after the 1983 election victory that the programme gained momentum; it became a full-scale programme of sales after the third consecutive election success in 1987. Over these years, several public utilities including gas, electricity, water and transport were privatised along with British Aerospace, British Telecom, British Airways, Jaguar, Rolls-Royce and British Steel. By the end of 1990, almost half of the state-owned enterprises had been sold off to the private sector and by the end of 1991; the total sales proceeds had exceeded £29 billion.[49]

In describing the privatisation process, Brown and Ridley note that privatisation has three sides: the government as the seller, the corporation being privatised and the investor as the buyers.[50] The government's objectives as cited above included increased efficiency, fortified competition and wider share ownership; all of that were to be achieved whilst maximising advantages to the economy and the taxpayer. The corporation being sold into the private sector had to be in a fit state and strong enough to survive in the competitive environment in the private sector. Bringing the nationalised industries into saleable conditions was necessary so as to attract potential buyers. A number of candidates for privatisation fell short of market expectations and required some dressing up to make them attractive to potential buyers. Some firms had high levels of indebtedness that raised questions about their short and long-term liquidity, return on investment and their effect on the working capital cycle. For instance, changes were made to British Telecom's method of accounting and capital was injected into the firm to improve the debt to equity ratio before it was put up for sale. Other firms had such personnel arrangements such as dubious pension plans that would have made them unattractive for buyers. In this regard, the National Freight Company was found to have an underfunded pension scheme; the consequence of that would have been additional off-the-balance sheet liabilities for the buyer.

The privatisation of state owned businesses was carried out using four different methods. Some were privatised through public flotation on the Stock Exchange such as

British Aerospace, Cable and Wireless, Rolls-Royce, British Airways and British Petroleum. This method allowed ownership of the state owned business to be widely distributed (when the shares were sold to a variety of investors) and thus to some degree this allowed more equal distribution of the state's wealth among the population. Floatation took several forms. In some cases, like British Gas Corporation and Royal Ordinance, the entire shareholding of the government was sold in one go. With others such as British Aerospace, British Petroleum and British Telecom, the shares of the nationalised firms were sold in phases over time. Yet in others, such as British Airways, British Airports Authority and British Steel the government sold all its shareholding in these firms but retained one special share in them. This special share granted the government the authority to control the future ownership of the newly privatised firm so that national interest can be protected. Regardless of the way the flotation proceeds, it could be argued that once floated on the Stock Exchange, state owned businesses could be taken over by big investors in the future such that eventually the businesses would be owned by a few individuals. In such situations, it would be difficult to ensure equal distribution of wealth.

Companies seeking listing on the Stock Exchange have to satisfy listing requirements. These include a successful financial track record, market capitalisation in excess of a threshold, sufficient working capital, and requirements regarding the proportion of shares that ought to be sold to the public. In situations where state owned businesses failed to meet the listing requirements, privatisation was carried out by directly selling the entire (or portion of) nationalised business to a single firm or a group of firms in the private sector. British Sugar Corporation, British Shipbuilders, and Royal Dockyards are examples of state owned corporation that were sold using the direct sales method.

Yet others such as the National Freight Corporation were sold off through staff and management buyout. This is where the state corporation was sold off to its managers and employees. In this type of an arrangement, the business continues to run smoothly as the management remains the same. Additionally employees and managers become more motivated since they also own a part of the business. The result is that the business could be more efficiently run - thereby achieving another goal of privatisation.

### 3.4.3 Safeguards to Protect the Public Interest in Privatised Corporations

The majority of the nationalised industries were founded on the premise that the state alone was best suited in delivering a co-ordinated and an efficient way of utilising the scarce resources of the country whilst protecting public interest. Since privatisation means that it would be the shareholders, rather than the publicly-elected politicians who will call the shots, was there a way to ensure that the privatised firms will safeguard public interest whilst pursuing their profit motives? This question is more pertinent in situations where privatisation of a nationalised firm such as British Telecom (that due to its inherent nature and environment) operating as a public monopoly simply converts it into a private monopoly. The benefit of this to the public may be marginal because of the absence of competition; the latter enables the private sector to be more efficient and innovative than the public sector.

The Thatcher government opted to establish regulatory bodies to ensure that the privatised firms in pursuing their profit motives did not exploit customers. For instance, the Office of Telecommunications (now part of OfCom) was established to regulate telecommunications following the privatisation of British Telecom. OFTEL had an obligation to regulate the behaviour of BT and its smaller competitor, Mercury Communications Ltd by controlling the increase in the telecommunication charges these companies could implement thus protecting customers from monopolistic exploitation. The mandate of OFTEL is not just limited to telecommunication charges alone; it also hears complaints from the public about telecommunication matters and uses its authority to ensure that these complaints are dealt with appropriately.

One potential threat of privatisation is the possibility of the privatised firms being sold later on to such people/organisations who might pose a threat to the country. Once nationalised firms have been privatised, the government would completely lose control of future ownership that means crucial industries could at some point in time land in the hands of the enemies of the state. To avert such a situation from arising and ensure that the national interests are taken care of, golden shares were introduced which gave veto powers to the government over the future ownership, control or conduct of a privatised

company. To date most of the golden share arrangements under privatisation have limited the maximum percentage shareholding by any party in the privatised firms.

For instance, the golden share issued to the government when Cable and Wireless was privatised, prevented any one person/group acting together from acquiring and controlling more than 15% of the equity. The exception has been in the case of British Aerospace (because of defence and national interests) where the golden share gives the government the veto power to forbid takeover possibilities by foreigners. Golden shares were included within the memorandum and article of association of privatised firms but did not form part of the legislation that was the conduit for privatisation. Thus, golden shares, having the force of company law, help in protecting national interests.

However, it could be argued that the shareholding restriction imposed by the golden shares might not allow the full effects of privatisation to be realised as the flow of capital might be restricted in the sense that capital inflows from an investor into a privatised firm might be financially beneficial for the latter but such that an investor might compromise national interests. But in the real world, all companies are, to an extent, subject to constraints contained in their memorandum and article of associations.[51] Thus the case of golden shares would mean that the full effects of privatisation in an ideal world would be difficult to realise but in the real world this might be possible.

### 3.4.4 Reaction to Privatisation

The rise of privatisation attracted both acceptance and opposition. Proponents of privatisation, mainly the Conservative Government at that time, argued that the strikes, legislative constraints and antipathy between management and workers that were commonplace in nationalised industries were not helping the latter in becoming better.[52] On the other hand, those who opposed it commented that privatisation was akin to the selling of the family silver to pay for the groceries.[53] In order words, the selling of state corporations when they were underperforming was seen as short gain but a long-term loss. The hostility to the government's privatisation programme came from the industries to be privatised, the financial community and the general public. To counter

this antagonism, the government embarked upon promotional marketing that took the form of seminars, speeches and briefings to financiers and business people.

Competition in the private sector acted momentously in driving the former to adopt accruals accounting system. The birth of corporations (where owners of businesses are different from the managers), added further impetus to this drive as the shareholders demanded better information on how their monies were spent by the directors(managers) of corporations.[54]

### 3.4.5 Has Privatisation Worked?

One of the objectives of the Thatcher government vis-à-vis privatisation was better efficiency of privatised firms. The profit motive in the private sector (but absent in the public sector) creates a competitive and innovative culture in the former as businesses cannot survive without profits. Thus firms in the private sector are always engaged in seeking better and more efficient means of production and service. Goodman and Loveman suggested that through privatisation, the efficiency and quality of the remaining government activities increases whilst the size of the public sector reduces.[55] The argument that privatisation results in greater economic efficiency has been attacked by several authors. Many argue it is uncertain if productive and allocative efficiencies increase when industries are moved from the public to the private sector.[56] This uncertainty is fuelled by the challenging task of measuring these efficiencies in the first place. [57] Others have argued that improved efficiencies in the privatised firms are directly related to their competitiveness.[58] In order that like is compared with like, another line of argument is that comparison of the efficiencies of public enterprises vis-à-vis privatised firms would be more appropriate if nationalised industries were given a chance to prove themselves by subjecting them to more competition, less political interference, employment of improved business practices and better accounting systems.

Efficiencies aside, one way of analysing the performance of privatised companies is to assess their profitability. The figures in Table 3.1 show that after privatisation, the pre-tax profits of most of the large privatised firms steadily increased.

**Table 3. 1: Pre-tax profits of privatised companies in the UK**

| Company (Year of privatisation) | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|---|---|
| | £'m | £'m | £'m | £'m | £'m | £'m | £'m | £'m |
| British Aerospace (1981) | 70.6 | 84.7 | 82.3 | 120.2 | 150.5 | 182.2 | 161.0 | 236.0 |
| Cable and Wireless (1981) | 64.1 | 89.2 | 156.7 | 190.1 | 245.2 | 287.3 | 340.5 | 356.1 |
| Amersham International (1982) | 4.8 | 8.5 | 11.7 | 13.7 | 17.1 | 17.6 | 22.1 | 25.3 |
| National Freight Company (1982) | 4.3 | 10.1 | 11.8 | 16.9 | 27.2 | 37.0 | 47.4 | 67.1 |
| Britoil (1982) | 423.1 | 486.3 | 550.4 | 650.4 | 730.9 | 134.0 | 403.9 | - |
| Associated British Ports (1983) | (10.3) | 5.5 | 14.5 | (7.0) | 17.2 | 29.3 | 38.1 | - |
| Enterprise Oil (1984) | - | - | 83.2 | 138.5 | 111.1 | 2.9 | 72.5 | - |
| Jaguar (1984) | (31.7) | 9.6 | 50.0 | 91.5 | 121.3 | 120.8 | 97.0 | 47.5 |
| British Telecom (1984) | 570 | 936 | 1,031 | 990 | 1,480 | 1,810 | 2,067 | 2,292 |
| British Gas (1986) | - | 430 | 803 | 909 | 712 | 782 | 1,058 | 1,008 |
| British Airways (1987) | (141) | (108) | 74 | 185 | 191 | 195 | 162 | 228 |
| Rollys-Royce (1987) | - | (93) | (115) | 26 | 81 | 120 | 156 | 168 |
| British Airports Authority (1987) | 42 | 43 | 30 | 48 | 72 | 84 | 90 | 136 |

Source: Miller, A. N. Privatisation: lessons from the British Experience. *Long Range Planning*, 1994. Vol 27, No. 6, pp 125-36.

The pre-tax profits of most of the privatised companies that had been in the private sector the longest (such as British Aerospace, Cable and Wireless, Amersham International and National Freight Company) increased significantly once privatised. The British Telecom and the Associated British Ports more than doubled their pre-tax profits after they were sold by the government. With Britoil and Jaguar, privatisation seems to have had a negative effect - their profits dropped.

Generally, the profitability of a company is no direct measure of consumer satisfaction and more so when a privatised firm can exercise monopolistic powers to some degree. Thus from the financial results above, it cannot be inferred that consumer satisfaction vis-à-vis privatised firms increased. The fact of the matter is that support for

privatisation from consumers, that was strong in the lead up to its initiation, somewhat declined afterwards.[59] One of the factors contributing towards this faltering support was the public's perceived failure of privatisation to bring about an increase in competition and lower prices.[60] For instance, accusations of profiteering by British Gas have brought censure from its regulatory body. It could be argued that some privatised companies because of their inherent nature and possibly higher barriers to entry operate in an environment where increased competition is difficult to achieve and therefore in such cases overstepping by privatised firms, which although painful for consumers, should be expected.

One very pronounced key objective of the privatisation programme was to promote wider ownership of wealth by increasing the number of people who own stocks in British businesses. The stockholder, who may be an employee of the company in which he holds stock, gets a direct stake in the success of his company and as a result increases his motivation to work harder in furthering the joint interest of his and that of his company. Non-employee shareholders will be concerned about the performance of the firms in which they have invested. In this way, such shareholders who provide capital for their firms could indirectly pressurise the latter to register better performance. Thus, in both ways, wider share ownership will not only remove the distinction between owners and workers/consumers but it will also have the potential to drive companies to work whilst taking into consideration the interests of the workers/consumers.

Special arrangements were made by the government to encourage employees to become shareholders when a majority of the shares in the firm they worked for were floated on the stock exchange. This included offer of a limited number of free shares, discounts on the purchases of shares and giving employees priority over other investors to purchase shares. This encouragement was successful as the data in Table 3.2 shows that in most cases, a majority of eligible employees took up shares in the privatised firms.

**Table 3. 2: Employee participation in UK share-purchase agreement**

| Company | Maximum value per employee of Free or Discounted shares | Percentage of eligible employees who purchased shares |
|---|---|---|
| British Petroleum | £500.00 | 50 % |
| British Aerospace | £499.20 | 74 % |
| Cable and Wireless | £300.00 | 99 % |
| Amersham International | £46.70 | 99 % |
| National Freight Company | £200 interest free loan for share purchase | 36 % |
| Britoil | £457.95 | 72 % |
| Associated British Ports | £311.36 | 90 % |
| Enterprise Oil | None | 71 % |
| Jaguar | None | 19 % |
| British Telecom | £478.40 | 96 % |
| British Gas | £649.45 | 99 % |
| British Airways | £595.00 | 90 % |
| Rolls-Royce | £595.30 | 96 % |
| British Airports Authority | £502.25 | 91 % |
| British Steel | £644.00 | 94 % |

Source: Miller, A. N. Privatisation: lessons from the British Experience. *Long Range Planning*, 1994. Vol 27, No. 6, pp 125-36.

A decade after the first privatisation, about 750,000 employees had purchased shares in the privatised firms.[61] The success of the encouragement to wider share ownership further manifested itself in the form of several employee and/or management buyouts over the years in the privatised firms such as National Freight Company.

With respect to boosting shares take-up by non-employees, the government encouraged small investors to invest in the privatised firms by extensive marketing campaigns; allowing payment for shares to be made in instalments and providing investors with vouchers to pay for services they purchased from privatised firms. A case in point here

was vouchers issued to some investors in British Telecom to help pay their phone bills.[62] By the end of the first ten years of privatisation, small investor share ownership had tripled.[63] According to a study by the London Stock Exchange, the number of people in the UK who had a shareholding increased from 2 million in 1980 to 11 million in 1991.[64] To this end, the aforementioned statistics shows that privatisation was successful in encouraging wider share ownership amongst employees, small investors and the public at large. The extent to which the increased shareholding by the public has directly or indirectly influenced the privatised firms in registering progressively better performance is less clear.

### 3.4.6 Privatisation's Impact on the Exchequer

Adam Smith, in the Wealth of Nations, argued that the sale of state owned property not only generates large sums of money, but that within a few years, the substantially improved privatised property has the potential to provide increased amounts of returns in the form of taxes.[65] According to a study by the National Economic Research Associates (NERA), in the year to March 1980, major nationalised companies were contributing nothing to the exchequer; rather they were absorbing a total of £483 million between them.[66] British Steel was one of the worst companies in this context; it required financial assistance to the tune of £1.02 billion in the financial year 1980/81 on a turnover of just under £3 billion.[67] This miserable state of affairs reversed significantly as a result of privatisation. The sale of shares in the major nationalised firms generated average net proceeds of £3.5 billion annually in the years 1984/85 to 1994/95.[68] Furthermore, from 1986/87 onwards, the government received net receipts in the form of taxation and dividends amounting to between £3.3 billion and £5.8 billion annually.[69] In its detailed study, NERA attributed this turnaround of affairs to the dramatic improvement in the profitability of the privatised firms. Although much play has been made of the way in which receipts (comprising of proceeds of sales as well as income in the form of taxes and dividends) from privatisation have improved the look of public finances, in fact in only one year, 1987/88, did the privatisation proceeds turn a positive public sector borrowing requirement into a debt repayment.[70] Although privatisation brought about a turnaround in the nationalised companies (such that instead of the latter using up public finances, the privatised firms contributed to the

national kitty), the scale of the turnaround was such that privatisation provided a useful but small supplement to taxation.

### 3.5 Other reforms in the Public Sector: Compulsory Competitive Tendering

Since the late seventies, there has been a growing understanding that successful organisations concentrate on their core activities; they divest themselves from other activities. Peters and Waterman insisted on companies to 'stick to their knitting' i.e. that companies should do what they are best at.[71] In explaining this ideology, Hamel and Prahalad argue the case that the core competences of an organisation (i.e. those activities that the organisation is most excellent at) are the source of its competitive advantage.[72] Thus, private sector organisations have increasingly focussed on their core competences/activities and relieved themselves of other activities through their outsourcing, sub-contracting, contracting-out and externalisation.

A similar argument could be put forward with respect to the public sector. In other words, better delivery of public services could be achieved if the public sector were to focus on their core services (that is those which the public sector is best at delivery) and privatise/outsource the rest. To some extent, this was the philosophy pursued by Thatcher's Government when it came into office in 1979 - a smaller and more efficient public sector. The Government's overarching belief was that competition is the key to achieving this objective. This was partly achieved through the privatisation programme that spanned more than a decade. However, there were parts of the public sector such as defence and law which because of their inherent nature could not be privatised. The lack of political consensus failed the Government in the privatisation of other areas of the public sector such as education and health. The Government sought to improve the 'unprivatised' areas of the public sector by subjecting them to market-type mechanisms through the use of competitive tendering.

Through the Local Government Planning and Land Act (1980), the Local Government Act (1988) and the Local Government Act (1992), local authorities within the public sector were progressively required to subject more and more of their services to

Compulsory Competitive Tendering (CCT).[73] In essence, CCT involves comparison of the cost of in-house provision of a service by a local authority with that of commercial organisations in the private sector. The most competitive bidder (that may as well be the local authority) is awarded the contract and thus technically, contracting-out occurs only where a private sector organisation wins the contract. The local authorities were expected to draw up detailed specifications of the service to be outsourced so that outsiders could bid for the contracts. CCT resembles privatisation in the sense that the provision of public services is exposed to market forces since the local authority competes with the private sector bids to win the contract. However, unlike privatisation, CCT does not necessarily involve the transfer of assets and delivery (in the case where the local authority wins the contract) nor is the service to be contracted out transferred to a market from where a customer has to buy it. Although the responsibility for the provision of public services under CCT remained with the government; it facilitated greater involvement of the private sector thereby reducing government machinery and aligns well with the Thatcher Government's mantra of 'rolling back the frontiers of the state'. In other words, rather than directly providing public services, CCT enables the government to play the role of an enabler by engaging other organisation in the delivery of public services.

Think-tanks such as the Adam Smith Institute, the Institute of Economic Affairs and the Centre for Policy Studies strongly supported CCT.[74] They argued that such exposure of public services to market forces offered a win-win situation to both the taxpayers and businesses. Their argument rested on their belief that competitive tendering would periodically fuel competition between local authorities and outside suppliers (that might enjoy economies of scale) thereby creating momentous drives that pushes costs down and maximises efficiency. In the absence of CCT, there would be no real pressure on the local authorities to lower their costs when these will be met anyway by the taxpayers. Thus the exposure to market forces would help drive down the cost of public services and thus benefit taxpayers in the long run. Additionally, where contracts are awarded to the private sector, outsourcing would help create more business in the (private sector) economy; the tax on such work represents an indirect gain to the Exchequer.

Others have argued that prior to the introduction of CCT local authorities were responsible for both the provision of public services as well as its quality control.[75] However, without a call for high morals, it is difficult to imagine that both these roles can be played honestly by one body (i.e. the local authority) alone. Under CCT, when an in-house contract is won, a separation is created between the local authority and the department within the former that executes the contract. This helps to delineate between service provision and quality control since the local authority can specify quantity and quality parameters when inviting contractual bids and it can enforce penalties where those parameters are not met.

But were these benefits of CCT realised in practise?

### 3.5.1 CCT in Action

According to a survey report in the Municipal Journal, one year after the introduction of the Local Government Act (1988), the local authorities won an overwhelming majority of all contracts that were subjected to CCT.[76] This picture did not change significantly in favour of the private sector even by 1991 when the proportion of contracts (by value) awarded to local authorities ranged between 80% and 99%.[77] Thus contrary to common beliefs, by 1991, local authorities had not ceased to become direct service providers vis-à-vis public services despite the CCT legislations; private sector penetration in the public sector through CCT had been low. It was observed that although the number of expressions of interest in tendering from the private sector was high, the actual number of bids from them turned out to be low. The percentage drop-out rate between the numbers applying to be on the tendering list and those actually tendering oscillated between 69% and 83%.[78] After a further two years, there was evidence that the local authorities' share of contracts by number had dropped whilst their share by value had marginally changed.[79] This indicated that in the early days of CCT, the private sector was targeting a large number of smaller value contracts. This could possibly be explained by the risk-averse nature of the private sector where profit maximising is supreme.

### 3.5.2 Organisational Effects of CCT

One of the inevitable consequences of CCT has been the separation between client and contractor. Where the contract is awarded to an outside agency, the contractor is external to the local authorities. On the other hand where the provision of public service is in-house service, the contractor is the department within local authorities and as such is in-house. The client in both cases is the local authority whose role is to identify public service demands and requirements, develop methods of delivering those services to set standards, to procure those services and to manage the contract between itself and the contractor. Similarly, the contractor (whether in-house or outside agency) is involved in preparing and submitting bids as well as using its management systems to deliver the tendered services of the desired quality. This separation between the client and contractor under CCT calls for better management skills in local authorities to manage the relationship between the two. The Audit Commission in 1989 stated that as a result of CCT, local authorities had brought changes in their internal management so as to fight off private sector competition.[80] Greenwood and Wilson go as far as saying that this additional dimension of the local authorities' role, although not envisaged by the government when CCT was being introduced, has strengthened local authority management.[81] They argue that the separation of the roles of client and contractor at least offers some reassurance that those submitting tenders are not the same people who also award the contracts that not only enhances the degree of fairness in the contract awarding process but it also helps to secure the best the market can offer at the most competitive price.

This separation of roles is also beneficial for the local authorities over the duration of contracts for it reduces the risk of the tenders (won by them) being judged anti-competitive by the Audit Commission. Additionally, it allows local authorities to focus more on the outputs and secure better quality public services. In light of these issues, Parker observes that local authorities had begun to extend the separation of contractor and client roles over the duration of contracts.[82] With the exception of some teething problems at the start, there is no strong evidence to suggest that the quality of public services rendered under CCT by the local authorise has deteriorated.[83] This positively

indicates that the contractor-client roles/relationships adopted by local authorities have been enablers rather than inhibitors in the delivery of public services.

On the other hand, Stewart strongly argues that the separation of roles i.e. governing by local authorities on the basis of contractual relationships has severe limitations.[84] These, he notes, include barriers to information flows and impediments to organisational learning. Additionally, since local authorities become dependent on contractors to provide services, it becomes very vital that the contracts are so designed that they withstand every potential eventuality so that there is minimum interruption in the provision of services for the public. In theory, a perfectly designed contract cannot guarantee the future continuity of the provision of public services because in the worst case scenario, the contractor (whether in-house or a private company) may face huge fines. These potential financial repercussions help to secure the commitment of the contractor and may financially compensate the local authority, but the bottom line is that the contracted-out services would be interrupted for a while depending on the nature of those services. Thus although financial risks under CCT could be guarded, operational risks would have to be borne by local authorities and eventually by the public. Furthermore, under CCT, the requirement to take the lowest bid reduces the power of local authorities to boost local economy by purchasing goods and services from local suppliers.

Thus although the quality of public services under CCT has not deteriorated, CCT has been hollowing out the public sector by transferring functions, power and resources to a range of non-elected local and regional organisations/firms. This restructuring of the way public services are offered means a reduction in the democratic accountability and the reduction in the capacity of local governments to act in the best interests of their local populations.

### 3.5.3 Impact of CCT on Public Service Workers

In line with economic theory, local authorities' exposure to competition has been bringing in commercial and market-oriented approach towards their management and delivery of public services.[85] This means that competition has been driving local

authorities to operate like the private sector: making decisions more quickly and with fewer political constraints. This cultural change in the public sector (brought about as a result of competition) means financial considerations becomes supreme. It goes without saying that this makes it difficult for local authorities to pursue its social objectives (such as equal opportunities) since by their inherent nature, they stand at odds with the 'new commercial objectives' propelled by CCT. In the race to win contracts, local authorities made attempts to reduce their costs below those of private sector companies by reducing their labour costs (that generally account for a significant proportion of all costs in organisations). This had severe implications for the pay, conditions and staffing levels in local authorities.

A survey commissioned by the Department of Environment found that in those services that were subject to CCT, one in eight jobs had been lost.[86] Another survey of just 20 local authorities reported that during the first round of CCT, 10,000 part-time jobs were scrapped in building cleaning; though 400 new full-time jobs were created in the process (as there was need for more managers and supervisors under CCT), the net reduction in employment in that sector was recorded at 29%.[87] The public service workers who were lucky in retaining their jobs were forced to accept an increase in basic hours (thereby reducing if not eliminating overtime payments) or reduced holiday entitlements by employing them as casual labour.[88] Not only were part-time staff at local authorities (majority of whom were women) adversely affected through the 'casual labour' practice but there is evidence that local authorities deliberately reduced the number of hours worked to be below the statutory minimum for enhanced employment protection rights; thereby affecting redundancy entitlements, maternity leave, holidays and holiday pay.[89] With the adoption of the 'commercial' culture in the public sector, performance-driven bonus schemes were introduced that resulted in the replacement of older staff with younger ones who were more able to cope with the more demanding work. This achieved financial gains (since younger staff tends to be paid less than the older ones they replace) for the local authorities at the expense of losing staff with a lot of public sector work experience.

In situations where private contractors have won contracts and taken over public service workers, the latter's employment rights have been given legal protection by the Transfer of Undertakings (Protection of Employment) Regulations (TUPE) that were introduced by the UK to comply with the European Directive 77/187 that was intended to protect the rights of employees when a business was sold or taken over.[90] However, the TUPE regulations do not guarantee the indefinite preservation of pre-existing terms and conditions of public service workers. TUPE does allow the new employers i.e. the private sector companies to fairly dismiss or change the terms of employment for the public service workers for economic, technical or organisational reasons.

The Fair Wages Resolution, that required companies contracting with public sector authorities to pay the going rate for the trade or industry based on terms agreed in national collective agreements, was abolished by Thatcher government in 1983 to fully expose the 'privatised public sector' to market forces. Additionally, the Local Government Act 1988 made it unlawful for local authorities to consider non-commercial matters - including the wages of private contractors' employees and their policies on trade union membership - when assessing the bids from the private sector under CCT. This was perhaps done to ensure that competition is not compromised by such non-commercial matters.

Irrespective of the fact that public service workers remain in-house or are taken over by private contractors, the risk of job losses and being employed on poorer working terms faced by such workers has increased under CCT. Job security that was one of the defining characteristics of public sector employment has gradually been eroded with the advent of CCT.[91] It should therefore come as little surprise that the morale of staff in the public sector appears to have deteriorated. For instance, over half of the NHS managers surveyed said that their morale had worsened, whilst close to 40% of them reported significant damage to loyalty and job satisfaction as a result of CCT.[92] Thus, the exposure to market forces through CCT has propelled local authorities to pursue commercial objectives at the expense of social objectives.

Where commercial considerations take priority over everything else, social objectives such as offering equal job opportunities become secondary. It does not make commercial sense for local authorities and private companies to employ disadvantaged people such as those with disabilities or from ethnic minorities since it is costlier. Welsh and Davis in their government commissioned study on the impact of the Local Government Act 1988 found that the introduction of competition through CCT in local authorities had put pressure on equity in employment conditions and on the development of equalities.[93] The Equal Opportunities Commission found that majority of the men and women employed in local authorities received lower wages as a result of competitive tendering; women experienced proportionally larger reductions than men.[94] It was discovered that during the competitive tendering process, the issue of equal opportunities received minimal attention despite the universal existence of equal opportunity policies in the local authorities. Where contracts under CCT were won by the private sector, (that are more discriminatory than the public sector[95]), it was found that notwithstanding that there was a requirement for the private sector companies to adopt an equal opportunity policy, there was little indication that it was being practised.[96] It goes without saying that equal opportunities in the public sector became a major casualty as a result of CCT.[97]

Thus, the process of CCT has not only resulted in net job losses in the public sector but also exposed the jobs of public sector workers to competition from the private sector labour market resulting in lower wage rates, poorer working conditions, insecure employment and the lack of equal opportunities. This in turn has dented the government's role as a model employer.

### 3.5.4 Financial Advantage of CCT

CCT makes more financial sense if through the introduction of competition in local authorities, the cost of provision of public services lowers and thus better use of taxpayers' money is made. Walsh argues that the financial implications of CCT are difficult to assess because the bulk of financial information put forward in support of/against it is tendentious; produced by those who are either promoting or discouraging

competition in the public sector.[98] This calls for more critical evaluation of the financial arguments surrounding the use of CCT.

In one of the earliest research conducted by the Audit Commission, it was found that contracted-out refuse collection services cost less than the average in-house costs for similar services; although for some local authorities this difference was marginal.[99] The Audit Commission concluded that 8 out of 10 local authorities in England and Wales would benefit from CCT in refuse collection services with potential savings in the order of £30 million per annum.[100] Additionally, in other areas, the Commission reported that the cost of re-wiring council properties by private contractors ranged from £218 to £396 per dwelling against an in-house cost averaging around £600 in the absence of competition.[101]

On a survey of local authorities and health authorities, Hartley and Huby discovered that cost savings from competition tendering for the same standard of service oscillated about the 26% mark.[102] The Institute of Fiscal Studies in London used regression analysis on data from 305 councils over a three year period found that as a result of CCT, the estimated cost savings of about 22% were realised where private contractors were used and 17% where the service was retained in-house.[103] This study concluded that the majority of the savings were linked to the higher productivity of labour and vehicles; it found little evidence that the quality of services offered had declined. In other countries, for instance, Canada, it was found that the introduction of private contractors for residential waste collection proved to be significantly cheaper than the local authorities.[104] This was due to the use of more efficiency bonuses by the private contractors and their higher productivity. Other studies carried out in several countries concluded that competition helped to lower costs and the financial savings have arisen as a result of economies of scale enjoyed by the private sector, political restraint of public sector authorities and more efficient employment of labour.[105]

The possibility of collusion and corruption between private sector contractors and government officials (that could increase the cost of the provision of public services under CCT) cannot be ruled out, however, the evidence cited above (of financial

savings brought about through CCT) shows that in practice, this has generally not been occurring. Results from international and local studies (from both government and academia) support the view that competitive tendering can enable considerable cost savings to be realised in the provision of local public services.

The long standing mantra of successive governments (since the 1970s) to involve the private sector and its mechanisms in delivering public services because of its more efficient production of goods and services has been propelling transformational reforms within the UK public sector in the form of RAB, privatisation and CCT. The New Labour government elected into office in 1997 upheld this mantra by further strengthening the relationship between the two sectors that had been developing over the past two decades. Prior to 1997, public-private sector relationships were predominantly at arm's length. The New Labour government sought to bring the two sectors even closer in a long-term partnering relationship for mutual benefit of both parties through Public-private partnerships (PPPs).

## 3.6 Public-Private Partnerships

The government's stance on PPPs[106] is that while the best way to deliver government objectives may be through some combination of public and private sectors, the government retains responsibility and it is accountable for deciding between competing objectives, defining the chosen objectives and ensuring that the interest of the wider public are safeguarded. A successful long-term partnership between the two sectors for their mutually agreed benefits requires contribution from each party. The government recognises that the contribution of the public sector to this partnership is the pool of potential that includes dedicated and professional staff, a portfolio of assets and businesses and a wealth of ideas and intellectual property (derived from first class scientific research). The contribution of the private sector in PPPs is the application of a whole range of disciplines and skills (employed in the commercial world) to harness the pool of potential found in the public sector more efficiently and effectively than what the public sector can deliver. These skills and disciplines include profit motive, focus on customer requirements, hunting for new and innovative approaches and use of highly developed business and management expertise.

In bringing out the best of both sectors, the government developed PPPs to satisfy three broad objectives: to deliver significantly improved public services, to realise the full potential of public assets and to allow stakeholders to receive a fair share of the benefits of PPPs. There are a whole range of different types of partnerships that come under the umbrella of PPPs as set out by the New Labour government in 1997. The key partnerships that the PPP label covers include private sector ownership of state-owned businesses, wider market initiatives, policy partnerships and PFIs.

## 3.7 PFIs: Furthering Commercialisation of the Public Sector

The PFI that was launched by the New Labour government in 1997 together with other different types of partnerships under the PPP label was initially launched by the Conservatives in 1992.[107] Before the advent of PFIs, the government's stance, as per the Ryrie Rules, discouraged the use of private finance for public sector projects.[108] Formulated by the National Economic Development Council in 1981, the Ryrie Rules were revised in 1988 to take account of privatisation of nationalised industries. Nonetheless, these revised rules clearly spelt out that private finance was only allowed where it offered cost effectiveness and that privately financed public sector projects had to have government expenditure cover i.e. it had to be incorporated by the government in public expenditure planning. These stringent rules discouraged the private sector from coming up with privately financed public sector projects that offer value for money to taxpayers. The Ryrie Rules were formally dismissed in 1989 because they were increasingly becoming obstacles to improvement in public services.

The Ryrie Rules were succeeded by the birth of the PFI in 1992 by Norman Lamont. The guiding principles on which PFI was based were that the private sector must assume risk without recourse to the taxpayer for loss and potential PFI projects must show value for money. The aim of PFI was to build closer and better partnerships between the two sectors at government and local authority levels. The initial sluggish response to PFI by both sectors necessitated the creation of the Private Finance Panel in 1993 whose role was to encourage greater participation by both sectors, identify potential PFI projects and help remove any hurdles associated with PFI implementation. The government's commitment to increasing the participation in PFIs was witnessed

when it introduced universal testing – a rule that no capital project would be approved unless a PFI option for that project had been explored.

When New Labour came to power in 1997, public services were in a poor state. The massive under-investment (over the past two decades) in the public sector had created a backlog of repairs/maintenance in schools/hospitals (exceeding £10 billion) and deprived the transport sector of the much needed infrastructure.[109] All these problems inhibited the public sector from delivering high quality public services. Top on the agenda of the new government was to improve public services. It embarked on an ambitious programme that sought to improve the quality of public services through higher standards, reduced inequalities and the delivery of excellent, equitable and more personalised public services. Furthermore, the government wanted to ensure that public services achieved value for the taxpayers' money and to strengthen accountability by making sure that those delivering public services are responsive to the needs of the communities they serve.

In order to meet these objectives, the new government re-launched PFIs with some changes. It scrapped the universal testing rule and created the Treasury Taskforce to guide and assist government departments in negotiating and identifying potential PFI projects. The Treasury Taskforce produced policy statements, technical notes and case studies on PFIs. This guiding body had a two year life and it was succeeded by Partnerships UK that public sector bodies resort to on a voluntary basis to seek guidance on entering into PFI projects. Launched in 2000, Partnerships UK became a PPP itself in 2001 and it works with both the public and private sector on planning, negotiating and completing PPPs. The policy arm of the Treasury Taskforce was replaced by the Office of Government Commerce (OGC) in April 2000 whose aim was to modernise procurement throughout government. Up until April 2003, the OGC Private Finance Unit (PFU) was responsible for developing and promoting PFI policy for public bodies but post April 2003, the HM Treasury PFU assumed all those responsibilities. The key responsibilities assumed by this new unit included ownership of standardisation of PFI contracts (that is guidance for authorities on how to agree PFI contracts), ownership of

the PFI network (that is the public sector's online access to information on PFI) and ownership of the project review group (the process by which projects are reviewed).

When PFIs were initially launched in 1992, there was a large deficit on the Public Sector Borrowing Requirement and back then PFIs were seen as an attractive means of increasing public sector investment without widening the deficit significantly. However, over the years, the government has recognised that investment in public services through PFIs has the potential to deliver value for money public services by benefiting from the expertise and innovative approach of the private sector, the use of private finance and most importantly the transfer of risks to the private sector. This realisation has brought about a shift in the role of PFIs that now is to achieve better value for money.[110] Moreover, the government[111] realises that PFIs are not capable of providing value for money public services in all areas and has limited their use to situations where: the private sector has the necessary expertise to deliver the public services and it offers greater value for money than other procurement options. Furthermore, the government's view is that PFIs are appropriate where the structure of the service is such that the public sector can comfortably define service outputs that can be contracted for in a way that ensures effective, equitable and accountable delivery into the long-term and the nature of the assets and services is such that they can be costed on a whole-life and long-term basis – the government does not anticipate deriving any benefits from using PFI for projects with a life of 5 – 10 years.

PFIs will not be used in situations where there is evidence to suggest that they do not meet conditions of equity and accountability public services, where a project involves a high degree of short-term flexibility because of fast changing service requirements (as in IT) and small projects whose capital value is less than £20 million. To maximise the efficiency and effectiveness of PFIs, the government has set out measures[112] that include the enforcement of standardised PFI contracts and sector specific standard PFI contracts so as to reduce costs in terms of time and money in negotiating PFI contracts, the reform of the Project Review Group (that monitors PFI projects of local authorities) into a panel of PFI specialist drawn from across government and the use of second stage review of projects prior to the appointment of the preferred bidder and improved

accountability and transparency by publishing estimated future commitments, capital value of signed projects in the financial statements of the various departments that use PFI. The government further proposes to:[113] develop a best practice PFI project governance model, increase the monitoring and scrutiny of projects, changing projects approval procedure and creating a mechanism for identifying projects that are facing problems and enhance the capacity of departmental PFUs so that they are sufficiently resource to assist procurement teams in government departments.

Some of the features of PFIs such as transfer of cost and time risks, long-term nature of the contract and the partnering (as opposed to transactional) relationship between the public and private sectors were attractive not only in the public sector in general but the defence arena in particular. The next section explores PFIs in defence.

### 3.8 Defence: Widening the Scope of PFIs

Since their inception in 1992 and re-launch in 1997, the scope of PFIs in the UK public sector has been expanding. Like other government sectors and departments, the defence sector has been increasingly using PFIs for defence procurement.[114] The government's over-arching policies guiding the use of PFIs essentially applies across all sectors and departments including the defence sector. However concerns have been raised within the MoD that even though PFIs offer better value for money in some areas, they should not be used in frontline areas as this could dangerously be putting war-fighting capabilities in the hands of the private sector.

With the number and scope of PFIs in the defence sector increasing (until 2008), individual PFUs in various MoD departments including DPA and DLO were all consolidated into a centralised PFU within the MoD in November 2004.[115] This new PFU[116] is involved in the development of MoD PFI policy and guidelines, scrutiny of PFI projects to ensure that they are offering value for money and acts as a central PFI project information resource.

PFIs are just part of a series of reforms that been taking place in the defence sector since the early 1980s. Although, initially used for non-operational capabilities in defence, the

application of PFIs has been increasingly expanding and now includes frontline areas in defence as well. Over the years, the increased inclination of the MoD towards the use of PFIs has been a subject of debate both in academic and professional circles. A more thorough discussion on PFIs in defence is carried out in the Chapter 4 section 4.9.

## 3.9 Summary

Towards the end of the 1970s, the UK economy was found to be in a poor state. The Thatcher Government that was elected into office in 1979 diagnosed the inefficiencies and ineffectiveness of the public sector as the main hurdles facing economic recovery. Since then, her government and successive governments have been taking steps to drive up the efficiency and effectiveness of the public sector by introducing market mechanisms into the public sector in a variety of ways. These include privatisation, compulsory competitive tendering and the use of accruals accounting in the form of RAB in the public sector. Evidence cited in this chapter suggests that although these reforms brought about improvements (to some extent) in the public sector, they have, nonetheless, introduced new challenges as well.

An addition to the continuum of using market mechanisms in the public sector, a novel way of engaging the private sector in the provision of public services in the shape of PPPs in general and PFIs in particular was explored. The use of PFIs in defence was touched on briefly but will be examined in detail in the next two chapters: chapter 4 will trace the major reforms in the defence sector preceding the introduction of defence PFIs; chapter 5 will build on the first and then examine the financial robustness of SPVs involved in the delivery of Defence PFIs.

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# CHAPTER 4

## PRIVATISING DEFENCE AND THE EMERGENCE OF PFIs

### 4.1 Introduction

The initiatives taken by successive governments to reform the public sector have propelled winds of radical change, have spread and affected many areas including the defence sector. The past two and a half decades have seen a transformational change in at least one aspect of the MoD's paradigm: shifting some of the responsibility for the provision of defence to the private sector. PPPs (discussed in Chapter 2) and in particular PFIs have been the main instruments in involving the industry more openly to share the burden of defence. The role of the private sector in delivery of defence did not start with PFIs. Over the past several decades, the private sector has been involved in defence in many ways.

The previous chapter was fixated on the milestone changes in the public sector, in general, that predated the use of PFIs. In this chapter, the focus is on the defence sector. The purpose of this chapter is to explore the various mechanisms by which the private sector participated in the provision of defence that predated the use of PFIs and to examine the role of PFIs in the defence sector. It begins by a general examination of the nature of defence with respect to whether it is a public or private good. It then explores the nature of defence compared to other public goods before examining the pros and cons of state production of defence in the case of the UK. This creates the appropriate platform to then trace back events that have led to the changing role (in various forms) of the private and public sectors in the provision of defence in the UK. The centre of discussion in this chapter is PFIs in the UK Defence Sector – what are they, what is their role and what benefits do they offer, and what have they achieved so far? This chapter builds a solid understanding of PFIs in defence thereby allowing in-depth analysis of defence PFIs in the next chapter.

### 4.2 Defence: A Public or Private Good?

It is widely acknowledged[1] that one of the most important functions of a country is the provision of national defence that involves protection of a country and its citizens from

external aggression. Adam Smith, one of the first economists to consider the implications of defence expenditures on society, wrote that the first duty of the sovereign is that of protecting its citizens from violence and invasions of other independent societies.[2] History tells that even before defence economics was consciously studied and applied, the state provision of national defence had been common practice. However more recently, the theoretical justification for the provision of this service has been attributed to the public goods theory put forward by economists.[3] Although economists have called many goods/services as public goods/services and then debated whether such labelling is correct, the one service that has been the quintessential public good is the provision of national defence.

Economists generally define a public good as one that possesses the characteristics of non-excludability and joint consumption.[4] Non-excludability means that a good/service cannot be provided to only one individual without the simultaneous provision of that good/service to others. Joint consumption means that a good when produced for one person can be consumed by others at no additional cost. For instance, the light from a street light cannot be made such that only one person receives it and others are barred from it - it is non-excludable. At the same time, there is no additional production cost incurred if an extra person makes use of the street light - there is joint consumption of it. Based on this definition, a private good on the other hand, is one that gives exclusive rights to its customer of its consumption (i.e. the provision of a private good to a consumer does not result in its simultaneous provision to others). Other consumers are excluded from the consumption of a private good by way of its price. Furthermore, the private goods producer incurs additional costs in the provision of additional private goods for additional consumers - there is absence of joint consumption with respect to private goods. For instance, if a customer buys a private good such as a car, the customer alone has the exclusive rights to enjoy the benefits of having that car (excludability); others are deprived from consuming those benefits. The car manufacturer will incur additional costs to make more cars for other customers - there is no joint consumption of private goods.

But why are public goods called public goods and not by any other term that indicates their characteristics of non-excludability and joint consumption? The term 'public' in public goods suggest that goods that possess characteristics of non-excludability and joint consumption should be produced by the public sector. Indeed since there are positive externalities associated with public goods (that indicate that such goods are desirable), it is difficult to ensure that every member of the public pays for its share of consumption of public goods. With such a dilemma, it is argued that it is inconceivable that public goods will be produced in the required quantity and of the right quality by the private sector that is mainly interested in profit maximisation.[5] In other words, markets will fail to allocate resources in the production of public goods efficiently. This market failure can be corrected only if the state intervenes by engaging in the production of public goods.

Thus based on the above reasoning, should public goods then be produced by the state? One of the issues with the production of any good is that of revealed preference – what good should be produced. In markets, the price of a good/service gives signals to producers as to what to produce. If a good/service is not in demand by consumers, its equilibrium price will be significantly lower than its production cost. Producers will no longer allocate resources for the production of such a good/service since it fails to yield any profits. They will reallocate their resources to the production of other goods/services whose equilibrium prices are higher than their production costs. In this way, price mechanism enables the resources of an economy to be allocated to the production of those goods and services that are in demand i.e. those that have high utility. In this way higher allocative efficiency is realised. However, given the (general) absence of profit motive in the public sector and the fact that the public sector activities (including the goods and services produced) are financed mainly through taxation (and government borrowing that is eventually paid through taxation), there is a lack of price mechanism in the public sector. Thus, if public goods are state-produced, it is difficult for the government to know the revealed preference of consumers. For instance, if television broadcasts, that are non-excludable (such that anyone with a TV and aerial can watch it) and jointly consumed (since the production and airing of TV signals will not change if more people watched it) are financed by tax revenues, but free to view,

then there is no way for the government to know those programmes that are more demanded and valued by people (consumers) than others.

However, if markets produced and distributed the broadcasts and charged for viewing each TV channel, producers could use this price mechanism to ascertain the overall and specific preferences of consumers with respect to TV channels. The markets will then allocate more resources to the production and broadcast of those TV channels to which more people subscribe. This will enable producers to maximise profits and simultaneously, it would ensure that resources of an economy are channelled towards the production of those goods and services that have high consumer utility. This will result in higher allocative efficiency of resources. On the other hand, state-produced public goods (for which ascertaining consumer preferences is challenging because of the absence of pricing of such goods), may have low consumer utility that means economic resources are used to produce public goods that have low consumer demand. These represent wastage of resources and thus state-produced public goods may have lower allocative efficiency.

A second issue with the state-production of public goods is that of productive efficiency i.e. does state-production of public goods result in the lower utilisation of resources compared to private production of such goods. Although there are several differences between the public and private sectors (discussed in chapter 2), one of the striking differences between the two sectors is the profit maximisation objective of the private sector and its absence in the public sector. The profit objective of the private sector is crucial for its existence; without profits firms in the private sector cannot exist. Profits present private sector firms the opportunities for growth. Thus firms in the private sector face the real pressure of being eliminated if profits are not made. For this reason, the private sector is innovative and seeks to improve its efficiency because both these help to enhance its profits. On the hand, there is no profit motive in the public sector; the latter is rather financed through taxation. This means that even if the public sector does not register satisfactory financial performance, it does not come under the same degree of existential threat as in the private sector because the government can always raise taxes and in extreme situations print money; although opposition to the use of such

measures by the markets and the public cannot be ruled out. Due to the lack of a real existential pressure and therefore a real incentive to make the most of the resources at its disposal, it is not difficult to conceive that productive inefficiency achieved in the production of public goods in the public sector is (generally) lower than that achievable in the private sector.

Additionally, an examination of goods that had been/continue to be produced by the public sector such as telephone, postal services, rail transport etc. reveals that these goods do not necessarily possess the two main characteristics of public goods – non-excludability and joint consumption. For instance, in the case of postal services in the UK, the postage stamp is the price paid by consumers who wish to use postal services. These postal stamps limit the use of postal services to only those who pay them and thus make it non-excludable. There may be very low marginal costs incurred by the postal services to deliver an additional item within a given locality (provided there is other mail to be delivered in that locality). Thus although postal services are provided by the public sector, these services are not strictly public goods (as per the definition of public goods described earlier). On the other hand, there are a lot of goods produced by the private sector that exhibit the characteristics of both non-excludability and joint consumption. For instance, improvements made to a person's property enhance the neighbourhood (joint consumption) and it is impossible to exclude neighbours from enjoying the sight of those improvements.

Interestingly, all the goods and services that are nowadays produced by the public sector have in the past been produced by the private sector at one point; these include privately financed streets, private police forces, detectives and arbitrators.[6] A literature trawl on the theory of public goods reveals that in practice there are very few goods/services that fit the strict definition of a public good/service.[7] Thus based on the above discussion, it is not wrong to conclude that public goods (i.e. those that possess the characteristics of non-excludability and joint consumption) can not only be produced by the private sector but may also be better produced as compared to the public sector. Since the private sector aims to maximise profits, it cannot afford to allow free-riders in the production of public goods. Thus when public goods are produced by the private sector, the way the

goods are produced is changed so that they are available only to those who pay for it. In this way, the otherwise public good remains the same; however, it is stripped of its characteristic of non-excludability with the introduction of a price.

Indeed Holcombe argues that the public nature of a good does not necessarily imply that the private sector would fail to deliver such goods and that the public sector is best suited for the production of public goods.[8] Thus, he argues that although there may be reasons why the government would be engaged in the production of some public goods, these reasons cannot be the non-excludability and or joint consumption of such goods as theoretical and practical evidence shows that markets can efficiently produce some public goods.

### 4.3 Is Defence Different?

It is difficult to imagine the provision of national defence to be such that it can be provided to one individual or group of individuals without its simultaneous provision to others who live in that country. An area occupied by outlawed or condemned individuals (for instance terrorists) is also protected by a country's defence from external aggression. If national defence did not cover such areas, then these could easily be invaded by external aggressors and used as a launch pad to inflict damage to that country. Additionally, the marginal cost of providing national defence to one more individual in a country would be nil. For instance, the cost of protecting a country using a missile defence shield will not change if one more person is born in the country who needs to be protected from external aggression. This goes to prove that a country's defence is such that it is non-excludable and is jointly consumed; and thus it is a public good.

However, of all the public and private goods and services needed and produced by a country, the provision of defence has top most priority over everything else because without national defence, a country faces existential threat. All other public goods and services can only be produced when the country is in existence. Defence creates the necessary security for other activities to take place in the country. Thus although defence is a public good/service, it is different from other public goods and services

because it is a top priority for a country. Moreover, other public goods and services are produced for consumption such as roads, television broadcasts and street lighting, but defence has the feature that in some cases, it is produced for non-consumption. This is a situation where defence, a public good/service, is produced to act as a deterrent to external aggression. For instance, nuclear weapons are produced with the aim of discouraging attacks by foreign aggressors in addition to actually using (consuming) it if a situation demands. In fact the military might of a country as a whole acts as a deterrent to attack by foreign attackers. But one feature of defence that it shares with other public goods because of non-excludability is that of free-riders. Free-riders will not pay for public goods and services like defence unless they are forced to do so. But whilst other public goods such as television broadcasts and motorways can be offered as private goods by the private sector through subscription and motorway charges respectively, it is difficult to imagine offering national defence as a completely private good because of its non-excludability and the resulting free-rider problems. These hinder profit-making and the private sector could only provide defence profitably if it had the right to levy charges for the provision of defence through, for instance, taxes on the public.

In light of the above discussions on the public-private goods theory and the unique features of defence, should then defence in the UK be provided by the state, the private sector or both? The next section will trace the contributions of the public and private sectors in the provision of defence in the UK over the last five decades.

## 4.4 The Case For and Against Nationalising Defence

In the UK, the provision of defence as a whole has traditionally been in the hands of the government up until three decades ago. There are several reasons justifying this approach. For any country, the foremost task is to counter any existential threat to it and thus create a secure environment for its population to live and prosper in. Countering any existential threat to the UK comes before planning how to create jobs in the economy or developing other infrastructure that will create national wealth or even setting up a health service to cater for the wellbeing of the population. This is because without there being systems setup to ensure the physical security of the UK from

external aggression, the country may cease to exist in the event of an invasion and thus all other plans and means for the prosperity of the population (listed briefly above) become secondary. In order for the government to deliver this core responsibility of national defence, it must guarantee the supply and availability of defence services at all times. Since the very existence of the country is at stake during the course of a war and even during peace times (although the threat is very much reduced), the government cannot afford uncertainties and delays in the delivery of national defence.

When private sector firms are involved by being a contributor to certain parts of the defence supply chains, such engagements allow or rather encourage these firms to make (reasonable) profits. In the absence of profits, the private sector ceases to exist since it is these profits that are their most important source of finance; whilst governments rely principally on taxation to fund their operations. However, in situations where the private sector firms involved in the provision of defence face shortage of labour as a result of unwillingness of their staff working in/near war theatres, or liquidity and profitability problems because of a general market downtrend, etc., the worst case scenario for these private firms could turn out to be in the form of heavy financial penalties and damaged credibility thereby causing difficulties getting future defence contracts or other businesses in the civilian world. But on the other hand, failures by private firms would translate into unavailability of defence capabilities and services and thus lower level of protection of the country. Thus, the greater the extent of direct control of the government over defence supply chains, the more able the government will be in ensuring that uncertainties and delays in the supply and availability of defence is avoided and the security of the country is not compromised.

Secondly, by owning and thus controlling the defence supply chains, the government can exercise autonomy of military action. The UK has been a significant military power in the past and given that one of the objectives of the government with respect to defence is the achievement of success in military tasks undertaken at home and abroad, the government has wised to use military force autonomously to influence its security environment at times and places of its choosing. The use of foreign private firms in delivery of some aspects of defence (because they prove to offer better value for money

than domestic firms) could lead the government to compromise its full autonomy to use its military force against the country in which these foreign private firms operate where such military action is necessary to enhance the UK's security environment. Additionally, since defence firms, like any other commercial concern, are forced to make profits for not only their survival but also their growth, domestic defence firms could move out of the UK if they find it is more profitable to work abroad. For instance, analysts feel that as the MoD attempts to cut spending by £37 billion, BAE Systems has already started to close or rundown facilities in the UK and instead transferred some of its expertise overseas.[9] In this case, a domestic defence firm relocates aboard and becomes subject to the laws of that country that may bar it from selling defence goods and services to the UK. Similarly if a domestic defence firm does not relocate abroad but because it is a public limited company, it could be owned by shareholders who belong to different countries. Where major shareholders of such firms are foreign, the use of military force against the shareholders' countries becomes important from the UK security environment point of view; the government cannot enjoy full autonomy in such a situation.

Linked with the point discussed above is the fact that when governments rely on the private sector to deliver some parts of the defence supply chain, then it becomes important from the government's point of view that such firms continue to deliver those capabilities and services to ensure that the physical security of the country is not threatened. Private sector firms need to make profits for their survival and growth. They will continue to make profits so long as there is demand for their products and services. This means that the government must continue to place orders for more equipment and services with the private sector defence firms. Apart from routine military equipment upgrading that may be required from time to time, greater demand for military equipment and services occurs when the country is at war. Wars create more business for the defence industry, increasing its capacity to maximise profit. The end of the Cold War led to recession in the defence industry in the UK and the US as defence companies had to consolidate to survive.[10] Similarly, a decade after 9/11, defence companies in the US and Europe are facing more challenging times as military budget cuts are coming into force in these countries.[11]

This relationship between profits and wars could have negative fallout in the sense that the government may come under pressure to unnecessarily engage in wars so as to continue to provide the demand to the defence industry in order to ensure that the latter continues to thrive since certain (vital) components for the provision of national defence are delivered by this industry. Engagement in unnecessary wars to enable the defence industry to make profits could further rise where the defence industry makes a significant contribution to the national economy. This is because a lack of demand from the government for military equipment and services risks the closure of defence firms and this could impart a noticeable dent in the national economy as job losses would come into effect. The ex-military Republican President of the USA, Dwight Eisenhower, in his farewell address cautioned the American public of the serious repercussions of having a nexus of a powerful and influential military establishment and a large arms industry.[12] These influences increase the tendency for the government to use military solutions for every national security threat faced by the country. A RAND Corporation report indicated that military solutions to counter security problems have had a very low success rate of 7%.[13] However, where the government is involved in the entire delivery of defence with very little or no reliance upon the defence industry, the entire defence expenditures would be met through public taxation. The absence of private sector profits that support national defence (as discussed above) removes the dangerous need to constantly engage in wars because the government no longer needs to ensure that the defence industry continue to thrive profitably. On the contrary, since defence expenditures are financed through public taxation, leaving fewer funds for other socio-economic development of the state and its people, there would be fewer incentives to engage in unnecessary wars and probably more effort would be diverted into finding non-military i.e. political solutions to the country's security problems.

In addition to the vulnerability of private defence firms (that could lead to the compromise of national security) and the ability of the government to exercise autonomy of military action, the third advantage of defence in governments' hands is a need to protect sensitive information that includes operational intelligence as well as access to technology from being shared with other countries. Sharing such information could allow foreign countries to know the UK's strong and weak points they would

want to attack. More importantly, if foreign attackers also have access to the same technology as the UK, then the latter would lose its edge in defending itself. Thus the need to protect sensitive information in relation to national defence ensures that the ability of the UK to defend itself against aggressions from outsiders is not compromised. When a government relies on the private sector to deliver certain aspects of the defence supply chain, then the private sector would inevitably be in possession of some sensitive information relating to military technology and or operational intelligence. The government would lose its full control over such vital pieces of information. Although firms in the defence industry would be bound by clauses in their contract (for the delivery of defence to the government) not to share sensitive information with others, it is difficult to imagine any practical way of such sharing/leaking of information from not occurring. In order to take advantage of economies of scale or to maximise profits, firms in the defence industry could be tempted to sell the technology that they have developed and which they provide to other countries. The worst case scenario for a defence firm guilty of sharing sensitive information with other countries could take the form of heavy fines, imprisonment of its executives, barring it from entering into future defence contracts etc., but all these measures would not 'undo' the sharing of information. However, if the government alone provides all that is required for national defence, the former will have control over its operations and personnel and thus the likelihood of sensitive information being shared or leaked out would diminish.

Turning to the other side of the coin, one way in which private sector provision of defence is beneficial to a government is that it allows the latter, more specifically the MoD, to concentrate on its core activities of creating national security plans and getting these implemented. It enables the MoD to acquire a position from where it could manage the production and service of defence equipment and services rather than getting involved in the production process itself. This will relieve the MoD of manufacturing matters such as the best ways to manufacture a particular defence equipment or how best to attract and retain the best manufacturing expertise for defence equipment. The private sector would be responsible for all these issues. The MoD would spell out its requirements and the private sector would work out the best ways to

deliver on those requirements. The uniformed men and women within the MoD who would otherwise have been engaged in the production of defence equipment could either be discharged or used where their services make the MoD more effective in pursuing its strategic objectives.

It has been cited several times that the profit motive in the private sector creates an existential pressure on firms within this sector. This is because although in the short to medium-term, private sector firms could rely on loans from lending institutions and cash injections from shareholders, but in the long run, private sector firms have to produce profits that in turn will be used to pay back those loans it had taken on earlier and pay dividends to retain and attract the interest of its shareholders and potential shareholders. Thus, over the long-term, profits are the only source of funding available to private sector firms. Profit maximising is therefore crucial not only for a firm's survival but also for its growth. Due to this existential pressure to make profits, it is not surprising that private sector firms are engaged in discovering ways to minimise their costs and thus maximise their profits and in this process, they try to become more innovative. The absence of the profit maximisation in the public sector because the latter is funded through taxation (that is mandatory), makes the public sector immune from such existential pressures and explains the general lack of innovation found therein. Therefore, by allowing the private sector firms to bear the burden in the production and delivery of military equipment/solutions, the MoD could take advantage of the innovative characteristics of the private sector. The innovativeness of the latter could result in the provision of defence that not only provides the private sector to maximise profits, but allow the country to benefit from more effective defence equipment and services.

The benefit of defence (or parts of it) being in private hands, could be realised in terms of economies of scale. Private defence firms could market their products not only to the MoD but also to other countries provided that the UK allows them to sell defence equipment and services to other countries. A bigger market would be created and this paves the way for defence firms to spread their costs (that are significant in the defence industry) over more buyers and achieve economies of scale. The financial gains from

the economies of scale could then be passed on to the government in terms of lower defence costs. A relevant example here is the provision for the Special Purpose Vehicles (SPVs) to earn third party revenues in PFI contracts (discussed in Chapter 2 section 2.6.9). The aim of these (potential) additional incomes is to enable SPVs to reduce their costs and in turn lower the unitary charge payments by the government. On the contrary, if all defence production were carried out by the public sector on its own, then given the absence of the profit motive in the latter, it would have been difficult to imagine that government-owned defence production units could be able to market themselves to other countries and benefit from economies of scale. The Wider Markets Initiative, an example of Public Private Partnership that was introduced by the Labour government in the mid-1990s, where private sector is employed to harness the full potential of public sector assets, gives credence to the notion expressed above.

The discussion of the public and private provision of defence in this section goes to show that there is no clear cut superiority of one sector over the other. Each sector offers benefits but simultaneously poses challenges as well to the government. The next section will explore the pros and cons of the public and private sector mix in the provision of defence in Britain from the mid-nineteenth century.

## 4.5 Public-Private Mix in the Provision of Defence in Britain

The defence sector in the UK was being subject to forces of change whose origins date back to the mid-nineteenth century when industrialists started making efforts to transfer the skills and technological developments of the industrial revolution to the military.[14] Van Creveld points out that at this point in time, (i.e. in the mid-nineteenth century), the birth of a new arms race was taking place: this race was less about the numbers of weapons but more about the performance of weapons.[15] Further credence to this view is given by William McNeil in his study of military technology wherein he states that emergence of this new arms race began just after the Crimean War in the 1850s.[16] Although history is dotted with such efforts being made to improve weapon performance, the effects of the industrial revolution on the quantity of technical and scientific knowledge and their resultant impact on the way in which wars are fought

have been exceptional.[17] In fact, Toffler and Toffler have argued that the industrial revolution brought about a revolution in military affairs.[18]

The industrial revolution, in essence, gave Britain the opportunity to boost not only its own power but also its security. McNeil, in his study, points out that during the European arms race between 1884 and 1914 the state began making increasing demands on the defence industry to provide better weaponry and this behaviour of the state changed the buyer-seller relationship between the defence industries and the state.[19] Increasing demands by the military for better armament and equipment posed serious challenges to defence firms at that time because of their limited research and development (R&D) budget. Prior to this qualitative arms race of the mid-nineteenth century, invention in military equipment was the work of a few individuals with limited resources. The investment in R&D was recouped when the newly invented equipment was bought in by the military. But there was risk with this arrangement, because not all military equipment inventions were accepted by the military. This meant that defence firms were not sure that their R&D investment would be paid off and thus the former kept their R&D budgets to modest levels. This limited level of R&D made naval engineering incapable to reach the heights it eventually reached during the European arms race. To confront the expanding German fleet during this arms race, the British Navy became more demanding in terms of naval innovation it wanted from the defence firms. However, as explained above, the buyer-seller relationship in the defence sector did not allow defence firms to be in a position to be able to afford the high level of cost and risk associated with the increasing demands from the Navy. The latter wanted there to be no financial and technical limits on innovation so that it could most successfully counter the threat it faced during the arms race. In an attempt to increase defence firms' efforts on R&D, the Navy decided to subsidise defence firms' R&D costs. This was the beginning of the role of the state in defence firms. The buyer-seller relationship increasingly changed the military's role to that of defining the basic characteristics of the weapons required and the defence firms' role to that of building weapons to those specifications. One of the repercussions of the state's involvement in private defence firms was financial problems: because of the unpredictability of costs, a promising new idea ended up costing much more than had been initially envisioned but because Britain

was in arms race with Europe, it could not afford to wait for a feasibility test on the new idea before it developed it since that could potentially mean giving that new technology to Britain's adversaries.[20]

The role of the government was not limited to the subsidies by the Navy. Pearton points out that before the First World War, the British government had established the National Physical Laboratory in 1909 to carry out R&D on aeronautics.[21] He further points out that during the First World War, because the government needed better performing aircrafts to defeat the enemy, its research commitments in the aviation sector increased and the state's involvement in private aviation firms expanded to such an extent that the government had access to the firms' accounts. The importance of technology in war can be judged by the fact that it was during the First World War that many aircrafts, tanks, machine guns, submarines and radio communications were either first developed or refined during this war.[22] Although financial constraints during this war did not allow the development of better weapons, the state continued to sponsor R&D and thus became heavily involved in the finance and direction of military research and development in manufacturing firms.[23] This trend of state intervention in manufacturing firms further increased during the Second World War. However, what was notable during this war, was that weaponry development (which from the industrial revolution up to the start of the Second World War had relied on using scientific and technical knowledge that the manufacturing industry had used in satisfying consumer demand) transformed in that scientists became directly involved in developing scientific and technical knowledge for military weaponry; this led to the development of the radar and the nuclear bomb.[24]

By the end of the Second World War, Britain had lost its status as the world superpower. Although she had successfully resisted the conquering force of the Germans, in the immediate years following the war, the British Empire disappeared. The war had brought a lot of infrastructural destruction to the country and the rebuilding of the country became a challenge because Britain was short of money at the end of the war. One of the effects of the war was that the wartime situation forced the government to take control of how the resources of the country are spent so as to resist the

conquering forces. This was achieved by establishing a command economy in Britain led by a coalition government with a Conservative Prime Minister and a Labour Deputy Prime Minister. Both the wartime government and its successor committed the country to full-time primary and secondary education, the National Health Service, full employment, better housing, social security and a government based on consensus - in fact the role of the government expanded to such an extent that there was hardly an aspect of life in Britain that was not directly influenced by the government.[25] The bottom line was to unify the country against the common enemy and the governments planned to achieve this unification by creating a fair and equal society through the measures stated above. These measures brought about social changes (during the wartime) in the form of the breakdown of sex and class barriers, the establishment of the welfare state and educational reforms. The landslide victory of the Labour government in 1945 in which the latter had promised the public to take the social reforms (introduced as a result of the war) to new heights was proof that the public appreciated these social changes and wanted them continued in the future.[26] The Labour government elected into office in 1945 went ahead with the nationalisation of key industries such as coal, iron and steel and railways. Their rationale was based on the logic that nationalised industries would be beneficial to everyone and not just the shareholders. Profits ploughed back into the nationalised industries would help them grow and create (near) full employment whilst providing services at affordable cost to the public. The Labour government had long held the view that people come before profits and the nationalisation campaign expanded to cover industries.

In the midst of these radical social changes, the UK defence expenditure, that had hovered around the 2-3% of GDP mark prior to the Second World War, shot up to about 50% of GDP.[27] Defence expenditure at its peak during this war was twenty times bigger than in 1938/39 whilst civilian expenditure hardly changed during the war.[28] It is worth noting that during the war years, welfare expenditures also increased albeit in smaller steps; it was not until three years after the war that welfare expenditures rose significantly. The structure of the British defence sector was to an extent already established during the Second World War; the military roles, the associated organisation of the armed forces and the location of bases and industries are argued to be the result of

this war.[29] The defence industry after the Second World War was characterised by four types of companies.[30] The first categories of defence companies were the state-owned Royal Ordinance Factories, the Royal Dockyards (both of which were later privatised) and the Research Establishments. The government's role was to maintain capacity in these companies for mobilisation in the case of a war breaking out. The second category of companies were the large private contractors (that later consolidated and reduced to just a few in the 1980s and 1990s). These included British Aerospace (fixed wing aircraft), Westland Group plc (helicopters), VSEL Consortium Ltd (ships and engineering), General Electric Company (electronics) and Vickers plc (tanks). A huge proportion of income of these companies was from defence-related activities.

The third category of companies was the large numbers of middle-sized subcontractors whose income from defence activities varied. Lastly, there were a large number of small subcontractors who were mainly dependent on prime contractors. These were owner-run firms set-up by people who used to work for prime contractors; they supplied specialised component or service to prime contractors. Thus the defence industry after the war was largely in private hands but because their main market was the UK MoD, they did not behave like typical private sector firms in the sense that they were not competing with one another for defence contracts that could have brought costs down and improved products offered to the MoD. In essence, the defence market featured characteristics of both a monopsony (because of the single buyer being the MoD) and an oligopoly (small number of large prime contractors).

There was an unrelenting drive to innovate in military weaponry, that had been further precipitated by the Second World War, and that did not cease at the end of the latter. In fact an arms race (to develop better performing weapons) developed between the superpowers during the period of the Cold War. The emphasis on military innovation became more significant as it was intended to deter Soviet aggression through the deployment of technically sophisticated weapons.[31] For this reason, the state became very sensitive to (military) technological advancements and could not afford to lag behind the enemy in this field. This necessitated the state to continue to invest heavily in military R&D. To get a scale of the UK's defence R&D expenditure, a quick look at

the total defence expenditure from 1945 to 1963 shows that out of a total of £27 billion spent during this time, £11 billion (i.e. over 40%) of this total was spent on military R&D that was focussed on the production of new military equipment.[32] Additionally, from the 1960s to the 1980s, on average, R&D expenditure by the MoD was about 1-12% of its annual budget.[33] There was one important difference between R&D by the state during the Second World War and that during the Cold War - time constraint. During the Second World War, the government did not have unlimited time to invest in developing better performing weaponry as it was engaged in a war with the enemy. Spending more time on developing weapons may have resulted in producing weapons that perform better, but because the enemy was not waiting for Britain to develop new weapons before it attacked, there had to be a time limit on the amount of R&D work done so that weapons developed could be deployed against the enemy. However, during the Cold War this sense of urgency was absent and this therefore gave the defence industry more time to invest in military R&D and come up with better-performing weapons. Moreover, the fact that a lot of military technology was developed and or refined during the two world wars and the pressures on the manufacturing industry to come up with more and better weapons shows that the state had a reactive approach to defence to some extent. On the contrary, during the Cold War, the military adopted a proactive approach where men in uniforms envisioned where they wanted to be (in military terms) at a certain time in the future and then work backwards to find the means to materialise their visions. This significant change in military planning created more demand for technological advance in weaponry.

This new demand from the military raised the levels of risk and uncertainty for defence contractors not just because the latter were involved in working with new technologies such as supersonic flight, guided missiles, computers and electronics, but also because of the increased complexities associated with the development of new weapon systems - particularly the need to integrate a vast array of components and subsystems thereby making the development and production of all weapons far more protracted and difficult than those during the wartimes.[34] The risks and uncertainties in defence projects during the Cold War were so high that there were few parallels in the civilian manufacturing industry - the House of Commons Defence Committee argued that the development and

production of new defence equipment was akin to going into unchartered territory.[35] Economists Peter and Scherer concluded that although uncertainties are inherently present in any economic activity, civil and defence, however, the magnitude and diverse nature of uncertainties in the development and production of weapons systems after the Second World War are unique to the defence arena.[36] The uncertainties faced by the defence contractors in weapons acquisition can be grouped into two categories: external and internal. Examples of external uncertainties include technological innovation - a new material, component, software is discovered that could enhance the performance of the weapons being developed and produced. This discovery would mean that changes would have to be made to weapons systems being developed and produced since better ones can now be made. Moreover, technological innovation in the enemy camp would mean that better weapons would have to be developed at home to deter and (if war breaks out) defeat the enemy. Additionally, changes in the MoD's policy that itself could be as a result of changing security environment or international political commitments or defence budget cuts (during a recession) are other examples of uncertainties faced in the defence arena by defence contractors. On the hand, internal uncertainties arose because of the lack of an accurate means of predicating with respect to: the feasibility of a particular technology and its impact on the performance of weapons; the time it would take to develop that particular technology; and finally the costs that would be involved.[37]

In the 1950s, private defence contractors, that had earlier received state support during wars for military R&D, were in even greater need of capital to fund military R&D because the government required them to develop and deliver better performing and more technologically advanced weapon systems than previously. However, due to the high degrees of uncertainties in weapons development coupled with the fact that the latter requires huge investments with long payback periods (in terms of profits) and the problems of exploiting unknown technical territory as well as the difficulties of cost estimation of such projects made military procurement unattractive to investors.[38] As a result, defence contractors were unable to secure private sector funding and since the state needed those weapons to fulfil its defence and foreign policy objectives, continued state support for defence contractors became inevitable. It was impossible to provide

unlimited state support to the defence industry because the government had limited budgets (funded by taxpayers). A line thus had to be drawn to limit the state support. Of the many efforts done to achieve this, one was to encourage the defence contractors to contribute towards military R&D costs on the grounds that valuable knowledge from R&D activities would benefit the industry in other military or even civilian projects.[39] Unfortunately this initiative by the government failed to materialise because defence contractors refused to make such payments. They argued that it would make commercial sense for them to do so only if the government were to guarantee to place sizeable production orders for weapons based on the R&D work carried out. Due to the rapidly changing strategic environment in the 1950 - 60s, the government was unable to offer such guarantees and resultantly, the latter fully funded military R&D carried out by industry.[40] Another effort by the government to limit state support of defence industry was attempted through the use of competition and fixed-price contracts. The government later recognised that because demands by the MoD for weapons are such that they require enormous amounts of R&D breaking through new barriers of knowledge and that the development process for weapons is not clear-cut; it was difficult to shape defence projects as fixed-price contracts.[41] As a result, most defence contracts were secured through negotiation and not competition. They were usually based on such terms wherein the government would fully reimburse all costs incurred on the development and production of weapons and negotiated the profits earned (on these contracts) by defence contractors.

Since the state was funding military R&D carried out by defence contractors, it became more involved in the operation of the defence industry not least because there was a need to account for the use of public funds by private firms. This public accountability turned out to be a rather contentious issue because weapons procurement in the period between 1940s and 1960s was marred with financial and technological disasters.[42] For instance, the Sea Slug SAM was estimated to cost £1.5 million in 1948 but by 1960, this estimate had to be revised upwards to £40 million and it entered service nine years later than predicted.[43] Similarly, the Thunderbird SAM, that was a land based system, was initially expected to cost £2.5 million in 1950 when development work on it started; but by 1960 the estimated cost had risen to £40 million.[44] On another venture, the Blue

Steel Missile project was initiated in 1955 at an estimated cost of £12.5 million and in 1960 this estimate had to be raised to over £60 million.[45] Additionally, the Public Accounts Committee observed that public expenditure on defence projects was getting out of hand because of duplication.[46] For instance, the UK, in 1950s, acquired three strategic nuclear bombers when only one would have sufficed; similarly three SAM systems had been acquired by the three services when it was quite apparent that only one was sufficient to cover all the needs.[47] A study carried out in 1958 over a range of 100 defence projects found that the average ratio of final costs to initial estimates stood at about 2.8.[48] Huge slippages in defence contracts were in part attributed to the uncertainties of going into uncharted technological territory that was imperative in weapons systems development. Additionally, it was observed that another reason for cost overruns on defence projects was due to the changes in requirements made after development work had begun.[49] These changes were in turn the result of shifts in the perceived threats in the security environment. The Defence Research Policy Committee (DRPC) within the MoD that was tasked to control the actual progress of defence projects and thereby minimise slippages, failed because it had no scientific or engineering staff and thus it was unable to appreciate the technical details of projects. Moreover, since no one from the Treasury was present in the DRPC, there was no financial control over defence projects. Furthermore, the DRPC was also tasked to monitor military requirements of the three services and to determine what new programmes should be launched and how the resources required for the latter be made available. However, because of the lack of expertise in the finance and scientific issues, it was not surprising that the DRPC failed in this area as well and is thus blamed for the occurrence of duplication of defence equipment programme. The failure of the control mechanism, in the shape of DRPC, made it apparent that a better system of control over high technology defence projects must be put in place and that such a system should at least have the capacity to consider scientific issues with respect to and be able to exercise financial management over defence projects.

Up until the 1960s, there was very little regulation of firms in the defence industry. According to Chin, the MoD made very little when it came to verifying defence firms' proposals (with respect to defence projects) and the monitoring of defence projects even

in situations where cost-plus contracts were used.[50] It seemed like the MoD had blind faith that the defence industry will fulfil its promises and work efficiently and based on this notion, state assistance in the management of defence projects was not considered necessary. This blind faith of the MoD allowed the Blue Streak Missile project to be initiated even when there was no feasibility study carried out on the timescale and costs involved. The resultant fallout was that by 1960, the initial estimates for the project had to be increased more than five folds to £310 million.[51] In another project, the Sea Vixen Aircrafts, the MoD was content to proceed with this project on the basis of cost estimates put forward by the defence industry that were based on actual costs incurred on building an earlier generation of aircrafts that were technically much less complex. The contract was signed at a stage when the new generation aircraft were still in the early development phase and no production cost estimates were available and not surprisingly, the actual (production) costs rose by 95%.[52] These failures strongly called out for reforms in the defence procurement system

### 4.6 Defence Reforms, 1960-1979

The involvement of the state in defence firms because of R&D (discussed in the previous section) made public accountability of taxpayers money used in weapons development and their eventual purchase a contentious issue because of the huge slippages in time and cost of high technology defence projects. Up until the 1960, defence contractors were not desperate for defence work and so there was very little or no incentive for the former to get a tighter grip on defence contracts so as to limit these slippages. The state had to take on this initiative to better control the time and costs of defence projects. In 1960, the Ministry of Aviation (that is now been fused into the MoD) outlined its policy of not entering into any undefined and unlimited commitments. It aimed to achieve value for money in defence contracts not through competition and the use of fixed-price contracts (that it considered to be unfeasible) but rather by imposing greater financial responsibility on defence contractors by requiring them to produce a detailed cost programme of their development proposals and by putting in place other incentives in cost-plus contracts.[53] This meant that in a defence contract for which defining the costs and times involved was not possible, defence contractors were asked to complete a design study; this involved producing a detailed

report that predicted the time, cost and expected performance of a weapons system (to be developed) at each stage of its development. [54] This gave the state an idea of what to expect in terms of cost and time on such uncertain defence projects and therefore choose the one which, in their view, offered best value for money. On the other hand, in cost-plus defence contracts, where it was standard practice for technical cost officers to monitor technical progress against a defence contractor's expenditure by periodically visiting the former to carry out such assessments, the initiatives taken in 1960 by the state further increased this monitoring function. As a result, development contracts with the defence industry required firms to report their expenditures and technical progress periodically so that defence projects could proceed within the financial limits and technical milestones approved by the MoD. Unfortunately, where a defence contractor failed to achieve a particular milestone, suspending payments to the defence contractor to incentivise the latter to improve its performance was avoided because procurement officials (within the MoD) believed that it was ineffective in limiting the financial liability of the state; they placed more emphasis on getting as accurate as possible estimates.[55] Thus if defence projects were to go off-track, there was nothing effective that the state could do to bring them back on-track and therefore this defeated to some degree the initiative taken in 1960 (mentioned above). This loose financial control over defence projects came under intense criticism from the Public Accounts Committee in 1962 that advocated for price competition in and tighter defence contracts[56]. However, this proposed change in 1962 failed on the argument that the high degree of uncertainties with respect to time and cost in defence projects was inevitable and thus the technical progress, time and cost of such projects should not be contractually binding.[57]

The Labour Governments between 1964 and 1970 placed a lot of emphasis on efficient management and control of defence projects because the size of the defence budget (that accounted for about 7% of GNP in 1965) was having a negative impact on the national economy.[58] The Labour Government in 1964 commissioned a study, often referred to as the Downey Report, into defence contracts to investigate amongst issues the methods used by industry for estimating the cost of developing and producing defence equipment.[59] This study found that defence contractors continued to be poor at cost

estimation; few of them actually built a total development plan during the project study. One of the reasons for poor cost estimation was found to be the practice of basing them on a general concept of what the weapon would be like and these estimate calculations were based on past or current experiences with other projects in the same field. Additionally, the development cost plans varied in details and in the way they were presented.[60] Moreover, it was found that many defence contractors were either unable or unwilling to monitor and control a project's cost development in the detail required; in other situations where cost information was available, the system to collect the project cost information was so slow that it was ineffective as a control mechanism.[61] This study revealed that the cost-plus nature of defence contracts worsened these problems since in such contracts there is no incentive on the firm to achieve more with less. It argued that if cost-plus defence contracts were replaced by fixed-price ones, it would encourage defence contractors to work more economically and require less monitoring by the state that could translate into a smaller bureaucracy and lower overheads.[62] However, this study counter-argued the practicality of the use of fixed-price contracts on two fronts. Firstly, the high level of risk and uncertainty inherent in defence projects meant that it was difficult to come up with realistic time and cost specifications for defence projects during the development phase and thus this made it impossible to create incentives in a defence contract that would enable the contractors to meet cost and time specifications.[63] Secondly, defence firms could not be forced to accept fixed-price contracts because production runs, if any, were small and the firms did not have the financial muscle to sustain huge financial losses in defence contracts.[64] The hedges available to defence firms against the very risky defence contracts were few.

In light of these difficulties, the Downey Report advocated for an increase in the duration of pre-development work by defence contractors so that the quality and quantity of information on defence projects (for evaluation by the MoD) is increased. The project study phase that came after project feasibility would be divided into two stages. At the end of the first stage, the defence contractor was expected to present the MoD with a first draft of development specification that outlined performance, development trails and engineering characteristics of the weapon system to be developed. In parallel with this, the MoD also required defence contractors to submit a

first draft development cost plan that spelled out a cost and work schedule for each component of the project and an estimate of development and production cost. After satisfactory evaluation of these two sets of information, the defence contractor would get the green signal to proceed to the second stage of project study where it was expected to provide a more detailed development specification and cost plan. The Downey Report pointed out that at the end of the first stage of project study, the defence contractor would have defined and made a preliminary exploration of the areas of uncertainty and to have established a detailed plan for the further work required on them in the next stage and a broader plan for the rest of the project.[65] When the project has been defined at the end of the second stage of project study, all the uncertain areas should have been explored and a programme of future work defined.[66] In this way, the Downey Report advocated a progressive decrease in technical uncertainty of defence project as they passed from one stage to the next. If a defence project had not been able to offer the expected deliverables at the end of the first or the second stage, the project could be abandoned. Given that at the end of this second stage when the defence project is defined, it was expected that only about 15%[67] of the total development expenditure (for the defence project) had been paid to the defence contractor, the financial liability of the state could be limited and thus commitment to undefined and unlimited defence projects could be avoided.

These reforms introduced in the 1960s further increased state intervention in defence firms. In the 1970s, a concerted effort was made to refine this public control of defence firms. One of the key changes implemented in this regard was the abolishment of the three procurement organisations (for the three services) and its replacement by a single body called the Procurement Executive.[68] This amalgamation of the three bodies into one was carried out to provide a framework within which equipment programmes could be evaluated against how far they supported wider defence and foreign policy goals. Additionally, in light of the problems of cost escalation and delays in weapons procurement, this new body was setup to improve methods of selecting, monitoring and reporting on projects. Alongside these improvements to defence procurement, efforts were also made to remove slack from the bureaucracy in the MoD. Attempts were made to rationalise and speed up the defence procurement process by giving the Procurement

Executive a clearly defined management structure with the Chief of Defence Procurement sitting at the top of five system controllers each responsible for particular categories of weapons and equipment.[69] The system controllers shaped their men into project oriented teams headed by project managers who were responsible for the technical and financial soundness of their projects from cradle to grave. The careful delegation of authority was a major feature of the reformed structure.[70] Efforts were also made to reduce the level of state control exerted over the defence industry by alleviating the burden of monitoring defence firms not through competition and fixed-price contracts but by adopting a preferred supplier approach. Derek Rayner, the Chief of Defence Procurement, outlined in his report in the early 1970s that those suppliers who failed to carry out the tasks involved in the various stages of development and production of weapons systems for the MoD, would not be allowed to participate in government supply.[71] In this way, he concluded, many people who were involved in monitoring whether others carried out their contractual obligations would be freed. As a result, the Chief of Defence Procurement wanted to make sure that in the new (reformed) MoD, the latter is relieved of the responsibilities of defence contractors.

In short, the reforms of the 1960s and 1970s led to the creation of a highly regulated weapons procurement process that not only allowed a thorough investigation of the technical and financial risks of major defence projects but also permitted defence contractors to formulate more accurate time and cost estimates. Additionally, a lot of checkpoints were placed within the weapons procurement cycle to ensure that if at any one of these checkpoints there was significant discrepancy between actual and forecast figures with respect to time and cost, the defence projects were sent back to the MoD for reappraisals. Moreover, defence contractors were subject to state control over the level of profits the former could earn through the profit formula. Thus with such a stringent weapons procurement system in place, cost overruns and delays would be expected to be a rarity. But was such a positive result achieved in practice?

Unfortunately, there continued to be a number of defence projects that suffered from delays and cost escalations in one form or the other. For instance, the Nimrod AEW, started in 1977 with an in-service date of 1982 was incomplete in December 1986 when

it was finally written off at a cost of £660 million.[72] There were other defence projects that saw the light of the day but were completed at very high costs such as the Chevaline Project that was designed to improve the ability to penetrate Soviet anti-ballistic missile defences.[73] At the point of project definition in 1972, this project was expected to cost £175 million but by 1980 the cost had risen to over £1 billion before coming into service in 1982.[74] Both these costs are expressed in nominal terms and given that the UK experienced high levels of inflation in the 1970s, reaching as high as 25%[75], it can be concluded that the cost escalations could not be attributed to inflationary pressures alone. A number of Torpedo projects were not immune from cost and time escalations. For instance, the Sting Ray Torpedo that, in 1969, was estimated to cost £74 million to develop had risen to nearly £1 billion in 1980.[76] The Mark 24 Tigerfish Torpedo proved to be even more expensive in terms of cost and time than the Sting Ray Torpedo.[77] This project was initiated in 1959 but due to engineering problems it was decided, in 1971, to develop a simpler variation of it and it was not until 1979 when it finally received fleet acceptance. Aerospace projects also became victims of poor financial management. For instance, development costs of the Tornado GR1 soared from £1.9 million to £2.4 million (May 1974 prices) and the aircraft entered service four years later than expected.[78] According to one government study, on average the real cost of major defence projects before their completion increased by 66% from their earlier estimates and by 29% after their full development.[79] In money terms, this meant that there was about £3 - £4 billion of unplanned expenditure in the MoD's equipment budget each year; these figures amounted to about £1 - £2 billion if only cost increases after the start of full development were regarded as unplanned.[80] With the defence expenditure in the late 1970s and the early 1980s around £14 billion[81], these cost overruns (that had to be borne by the MoD eventually) were significant. Against this backdrop of cost and time escalations in weapons procurement, the Thatcher government (that came into power in 1979), in 1981, started to reform the management and control of weapons acquisition.

### 4.7 Defence Reforms: Thatcher Era

In the years 1979 to 1981, the MoD failed to keep within its budget despite an increase in the defence budget of about 3% per annum since 1979.[82] In 1980 the defence budget

was revised upwards by £203 million and even with this headroom, the MoD failed to keep its expenditures within the revised budget totals.[83] Attempts were made to cut back on defence expenditures by cutting fuel consumption and travel for service personnel and more importantly by the moratorium on defence contracts for three months imposed by the Thatcher government in 1980.[84] However, despite these efforts, it became clear early in the 1981 financial year that the MoD would not be able to operate within its budgetary boundaries for that year and to bridge this gap, the Secretary of State for Defence initiated a defence review in that year that resulted in significant cutback in the size of the Royal Navy's surface fleet.[85] One clear message coming out from this defence review was that although the defence budget in 1981 was 8% higher in real terms as compared to 1978 and with further 3% per annum real term increase in defence budgets planned until 1985-86, Britain would still be unable to meet its existing commitments because of rising weapons costs.[86] The 1982 Defence White Paper noted that although the defence expenditure in that year was significantly higher (in real terms) than 30 years ago, the UK military size in terms of personnel and equipment had dropped incredibly.[87] This trend was also supported by Chin's analysis of UK defence expenditures vis-à-vis size of UK's forces.[88] This inverse relationship between military expenditure and size goes on to support that as highlighted in the Defence Review of 1981, rising weapons cost was the problem. It was estimated by the Thatcher government that over the past 25 years there had been an annual escalation of between 6% and 10% in equipment prices between one generation of defence equipment and the next over and above the rate of inflation prevailing over this period.[89] Later studies showed that this defence inflation (in real terms) for weapons systems was in the region of about 9% to 11%.[90] The 1982 Defence White Paper highlighted that about 60% of the MoD's equipment budget was subject to these levels of defence inflation.[91]

The Thatcher government believed that the problem of rising cost of weapons systems was rooted in the character of the design process of such systems and in the nature of the MoD and defence industry relationship that had evolved over the past three decades. With regards to the design process, the 1982 Defence White Paper pointed out that the armed services and government-owned R&D establishments had too much control over the design process and were too focused on technological innovation and performance

but paying not enough attention to cost.[92] A major drawback of this high-level of state control over the design of weapons systems was that it did not take into account the potentials of an export market that if taken into account could have allowed the government to reap economies of scale.[93] The Thatcher government's solution to this problem was greater involvement of the defence industry (that was not interested in developing complex military technologies because of the high levels of risks and uncertainties involved) in the design process of defence equipment. The government sought to achieve this solution by giving the defence industry exposure to intelligence information on the threat (faced by the country) as well as by giving the defence industry a list of future (equipment) targets and requirements covering the rest of the decade.[94] This would help defence firms to plan ahead with greater level of certainty than in the past. Additionally, in order to get the defence industry more involved in the design process, the Chief of Defence Procurement left it to the defence industry to decide how best to achieve the MoD's requirements vis-à-vis its weapons systems. That is the MoD would just spell out the operational tasks it wanted from a weapon system and then it was up to the defence firms to work out how the weapons system can be developed to meet those operational requirements.

Another important effort made by the Thatcher government to curtail the problems of weapons procurement was focussed on persuading industry to pay some of the costs of R&D of defence projects. Although efforts to share the burden of R&D costs with industry failed in the past, the difference here was that the industry was given the freedom to determine how the MoD's requirements were to be met; in the past the MoD had been prescriptive in this area. It was believed by the Thatcher government, that the potential of export sales would incentivise defence firms to keep costs low otherwise export sales could be adversely affected.[95] Additionally, the defence industry was given more control over the management of defence projects through the greater use of prime contractors.[96] Due to the fact that the design, development and production of new defence systems involved a number of sub-system specialist companies (prime contractors) whose activities needed to be coordinated and integrated to meet the weapons specification, it was believed by the Thatcher government that it could be carried out better by industry than by the MoD alone as was the past practice.[97]

As opposed to non-competitive preferred supplier approach to defence contracts, one of the reforms introduced by the Thatcher government was the use of competitive procurement in weapons procurement. Its rationale was that competition contributes not only to keenness of pricing but it also stimulated innovation and enterprise and the encouragement of new ideas for the solution of defence problems.[98] Although the emphasis on competition was spelt out by the government in 1983 in the Value for Money in Defence Procurement document, the MoD had (before this document was published) already started inviting defence contractors to compete in activities in which they had previously not been involved.[99] These new practices were prima facie evidence that the MoD was abandoning the selection of contractors for high technology projects and replacing it with the broadening of potential contractors. The decision to promote competition in defence procurement in the early 1980s marked the end of the preferred supplier approach that had been in place in the defence arena. The Thatcher government thus 'sought to break these long established practices and create a new customer-supplier relationship based on a strategy of greater commercial awareness'.[100] Additionally, to create greater commercial awareness in defence, the government decided to make maximum use of fixed-price contracts and resist the use of cost-plus contracts.[101] Nevertheless, the Minister for Defence Procurement in 1982 rejected the use of fixed-price contracts during the development stage of major weapons equipment on the grounds of high risk and uncertainty involved during this stage.[102]

By 1984, there was a noticeable change in the government's efforts to promote competition and fixed-price contracts in weapons systems acquisition. These measures formed the foundation of the Thatcher government's defence procurement policy. The government, in 1984, endorsed competition in defence procurement in the Defence White Paper 'Competition is vital for the achievement of the best value for money, the most efficient use of resources and the stimulation of innovation and new ideas.'[103] This government encouraged competition between national defence contractors and also between subcontractors. It became a policy that on all contracts that were worth more than £1 million, the prime contractor was to use competition to allocate subcontracts.[104] The MoD introduced the process of iterative tendering in which there were successive rounds of bidding for work before development contract was awarded. This was done to

provide an even greater incentive to defence contractors. The government also abandoned the tradition of assuring the development contractor of the first tranche of production; instead it resolved to award the first production order on competition.[105] As a way of promoting cost-consciousness within the defence industry, the government proposed an even more extensive use of fixed-price contracts. According to the Secretary of State for Defence (for the years 1983-86), the principal cause of defence inflation were cost-plus contracts because defence contractors were repaid all their costs plus profit irrespective of the time they took or the resources they consumed/invested.[106] The government envisaged the use of fixed-price contracts in competitive defence procurement even in situations where competition was not reasonable or practicable.[107]

More importantly, in the past, it was believed that it was not possible to use fixed-price contracts for development programmes. However, under Lord Peter Levene, Chief of Defence Procurement 1985-90, this policy was changed; fixed-price contracts were to be used in major development contracts.[108] In his view, moving away from cost-plus contracts to fixed-price contracts was one way of making huge financial savings in defence. The basis of this view of Lord Levene was on his assessment that when fixed-price contracts were made with defence contractors, the approach of the latter was very different to that when the contracts were cost-plus ones. On a cost-plus contract, the more the contract cost, the more the defence contractor earned and therefore there was no incentive on the defence contractor to keep their costs down.[109] With a fixed-price contract, defence firms would have to work within an overall financial limit; more importantly the fixed nature of fixed-price contracts would help to limit the liability of the state in respect of such contracts. If costs turned out to be more than the fixed price in the contract, then these cost overruns would be defence firms' headache and not the government's. Additionally, the liability of the state was further restricted by linking interim payments on development projects to the achievement of key milestones. Thus if anything went wrong and a defence contractor failed to meet an agreed target, the government could withhold all further payments. In addition to the promotion of competition and the use of fixed-price contracts in defence procurement, the government also began a process that eventually led to the privatisation of major

defence companies including Rolls Royce, British Aerospace and the shipping industry.[110]

In short, it can be observed that the weapons procurement process under the Thatcher Government made a radical break from earlier trends by shifting the responsibility for the development and production of major defence equipment away from the state and back to the defence industry where it once lay about a century ago. The government hoped that in doing so, that the commercial objectives of the firm - design and manufacture to cost and consideration of the wider needs of the export market- would become established goals in the defence procurement process and that competition and the use of fixed-price contracts created an environment in which the firm had every incentive to perform.[111] The new defence procurement strategy motivated major players in the defence industry to consolidate so as to enjoy economies of scale in research and development thereby helping the defence contractors to be profitable (and thus remain in business) in spite of taking on additional risks. The Levene reforms were one of many initiatives taken by the MoD that marked the beginning of a modern and more efficient defence sector. As part of its efforts to improve efficiency and achieve value for money, the MoD, in the 1980s, introduced the policy of contracting out support services to the private sector where these can be done more economically in the private sector without compromising the operational capabilities of the MoD.[112] The aim of this policy was to ensure that defence support functions were undertaken by the private sector unless it was more economical to carry out those functions in-house or where such a practice would marginalise the operational capabilities of the MoD. By the late 1980s and early 1990s, the MoD adopted the policy of market-testing selected in-house defence support functions against private sector bids. Market-testing allowed in-house units to match the best outside bid but where they could not, the defence function was contracted out to the best private sector bidder.[113] Market-testing gained further momentum when the government launched the 1991 Competing for Quality White Paper.[114] As a result, the scope of functions that were subjected to market testing expanded and exposed the third and fourth line logistic support to outside competition.[115]

## 4.8 Effects of the Thatcher Reforms

The Thatcher Government's reforms of the defence procurement process between 1979 and 1997 was successful to the extent that they were able to implement their radical programme of reform such as increased use of fixed-price contracts (and more of these contracts for development projects) and the promotion of competition in defence procurement. Additionally, according to the MoD and the National Audit Office, this reform did produce significant financial savings in the defence budget. [116] The latter was a huge concern since in the past (during and after the Second World War) the state was paying for R&D and production costs of defence equipment; in some cases because of the high technological demand from the MoD to be able to counter enemy threats, expenditure on defence projects were unlimited. However, in spite of the financial savings claimed by the government, one thing was apparent - defence equipment costs continued to soar above established estimates. Thus, one of the failures of the Thatcher reforms was it they did not achieve the kind of financial and technical stability that had been anticipated.[117] Chin argues that there were four reasons why these reforms exacerbated the instability in these areas rather than resolving them.

Firstly, in line with previous trend, the MoD continued to be ambitious with respect to the operational requirements of the defence equipment it wanted. This was not due to some impulse within the military; rather, Chin argues that there were good reasons for developing more ambitious defence equipment.[118] Secondly, the Conservative governments in the years 1979-97 were wrong to assume that industry would be better at controlling the technological imperative in defence procurement; instead, Chin argues that the defence industry could just be as enthusiastic about developing technically ambitious products as the MoD.[119] Thirdly, the defence industry was not able to or willing to supply cost effective ideas and products. This was because the government's reforms that increased use of fixed-price contracts and competition made the design process more risky and uncertain since it made it difficult for defence firms to operate under a price cap on ambitious projects that had inherent risks and uncertainties. Defence contractors' fundamental fears were that if it approached the MoD with ideas and if these failed to get a green signal from the latter, they could be stolen since defence firms had to find a way of controlling their leakage to others.

Chin argues that the creation of Defence Evaluation and Research Agency (DERA) exacerbated this fear because it provided technical advice to the MoD on the viability of defence industry's proposals whenever the MoD wanted new weapons systems. This meant that defence firms' ideas would be scrutinised by DERA and passed on to the MoD for decisions. In this process, defence firms' ideas could be leaked to other defence contractors. Additionally, the radical reform to not automatically grant the first tranche of production after development work is complete reinforced the impression that defence research and development was a risky enterprise. Lastly, competition and the transfer of financial risk of defence projects to defence firms, under the Thatcher reforms, failed to result in greater pragmatism by defence contractors. What competition in fact did was that it encouraged defence contractors to put forward bids that underestimated the financial costs and technical difficulty of the defence project in question. Chin argues that such low bidding was done intentionally by defence firms to win defence contracts and also because defence firms were confident of renegotiating the contract with the MoD once they had been selected as the preferred bidder.[120] This over-optimism by defence contractors suited the MoD because it wanted to secure the best deal possible and because a low price was the best way of getting a defence project into the long-term costings.

Thus although the MoD was able to get a good deal for its defence projects, cost overruns and delays that had long been a problem in the British defence procurement process did not fade away as a result of the Thatcher reforms. In the 1990s, one important difference to the defence procurement process was that the financial liability of the state was somehow restricted because financial risk was passed on to defence contractors. However, whilst the existence of this financial liability of the state cannot be ruled out, there were many other ways in which the MoD's budget was adversely affected by defence costs. For instance, the MoD was forced to pay for unexpected technical problems and delays experienced on a project and the fact that the MoD had to keep a variety of older weapons system in-service much beyond their out-of-service date because their replacements were not completed in time. With the inability of the defence reforms in the Thatcher era to completely root out the MoD's problems and given the increasing pressures on the MoD in the wake of declining defence budgets

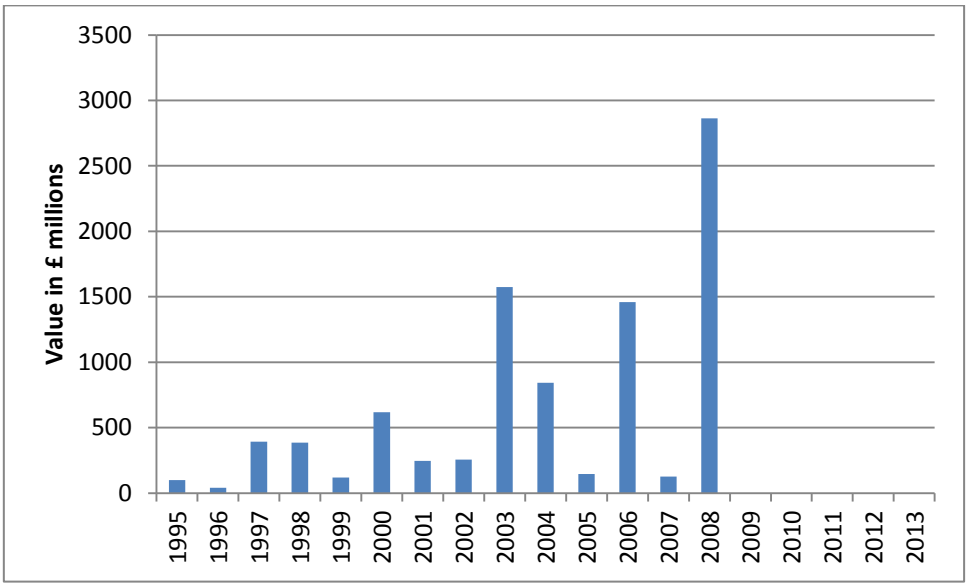
and the rapidly increasing defence equipment and personnel costs (that have been accelerating at around 10% each year) have been forcing the MoD to search for alternative means of providing defence that offer better value for the taxpayers' money.[121]

## 4.9 The Rise of Defence PFIs

In 1992 the government launched the PFI initiative, the MoD explored the scope of utilising private finance for capital items that had traditionally been financed through the defence budget.[122] Although the first defence PFI contract was negotiated and executed in 1995/96, it was not until the New Labour government (that was elected into office in 1997) that the application of PFIs (under the PPP label) in the defence sector accelerated.[123] In a bid to further strengthen the relationship between the MoD and its suppliers and make it more beneficial over the long run, the Labour government introduced a range of long-term partnership types under the PPP label (of which PFI is one) for the mutual benefit of both parties.[124] PPPs fit somewhere between conventional procurement and full privatisation and replaced the short-term nature of the MoD-supplier relationships that had been developing in piece-meal fashion over the past two decades. The philosophy behind the introduction of PPPs was a direct consequence of the realisation by the Labour government that a partnership approach between the MoD and its suppliers was the most beneficial way that suited both parties.

In this regard, the PFI is one of the latest initiatives adopted by the MoD to secure improved value for money in the procurement of services. With the Army German White Fleet (signed in 1995 for £101 million) being the first defence PFI deal, the MoD has to date signed over 45 PFI contracts involving some £9 billion in capital and as Figure 4.1 shows, the general upward trend in Defence PFIs witnessed from 1995 came to an abrupt stop in 2008. There have been no Defence PFIs signed by the MoD since 2009.

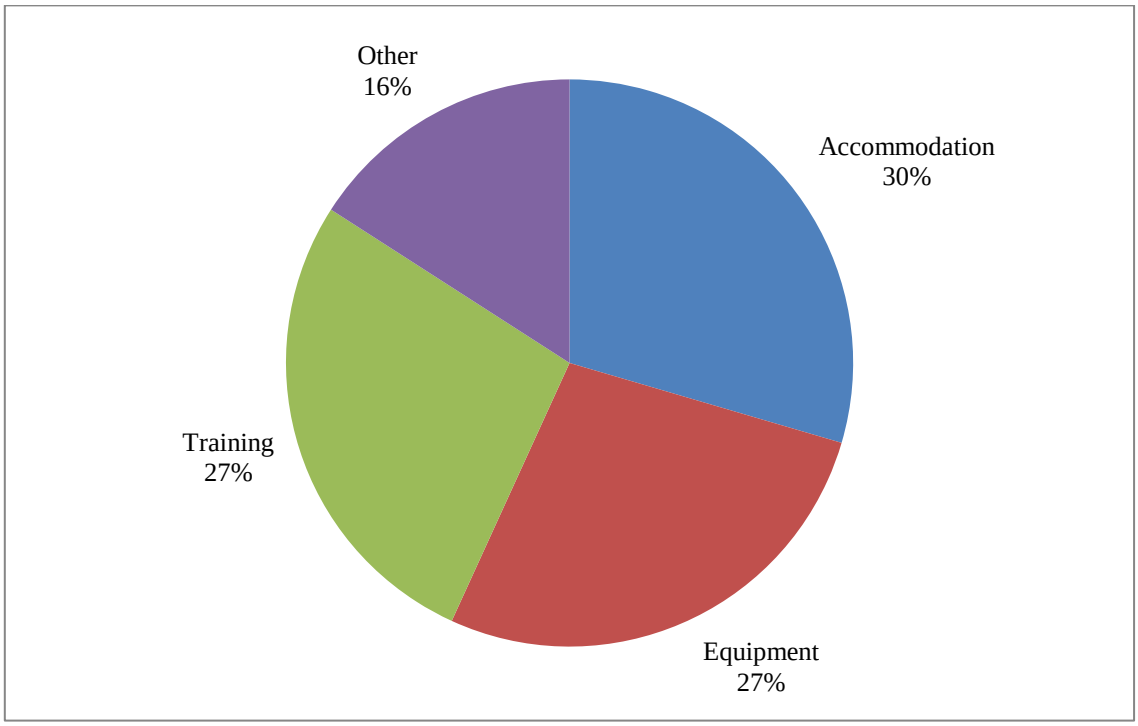
**Figure 4.1: PFI contracts signed by the MoD**




Source: Based on data from 1996 – 2013 taken from *GOV.UK* [online]. GOV.UK, 2013. Available at: https://www.gov.uk/government/publications/private-finance-initiative-projects-2013-summary-data [Accessed 1st October 2014].

Although, initially the PFI deals centred on non-operational training and infrastructure/logistic support areas, over the past decade the scope of PFIs has expanded into operational logistic support and other areas closer to the front-line (see Figure 4.2).

**Figure 4.2: Types of MoD PFI contracts**




Source: Based on data from 1996 – 2013 taken from *GOV.UK* [online]. GOV.UK, 2013. Available at: https://www.gov.uk/government/publications/private-finance-initiative-projects-2013-summary-data [Accessed 1st October 2014].

The MoD's PFI policy (that was initially formulated by separate Private Finance Units, (PFU), within the MoD but that is now prepared by the centralised MoD PFU) is the main source of guidance in making sure that this aim is realised. [125]The PFI policy of the MoD falls broadly in line with general PFI policies of the government (explored in the previous chapter) but it is centred on the fact that for all projects, the MoD will only consider the use of public funds in situations where the use of PFIs has been justified to be unworkable, inappropriate or uneconomic.[126]

Whilst clearly stating that PFIs must not be used for IT based projects or projects requiring a capital investment of less than £20 million, the MoD PFI guidelines do not state the specific areas where defence PFI is applicable. Instead, the guidelines are quite generic and state that PFI is suitable in situations where there is need for a significant capital investment (requiring effective management of risks) and where the private sector has the expertise to deliver the required set of services.[127] It adds that PFIs are suitable where the requirement and the associated technology are relatively stable and

planning horizons are long-term. The MoD PFI guidelines encourage taking a holistic view of potential PFI projects whilst emphasising that the over-arching factor in deciding whether to use PFIs is if it would provide better value for money vis-à-vis the traditional procurement option. The PFI procurement process constitutes a number of phases starting from identifying potential PFI projects before subjecting them to Value for Money assessment. Once approved by the Investment Approvals Board, the output requirements are specified and a commercial deal is built and once approved at the Main Gate, the PFI contract is negotiated with the private sector thereby bringing the PFI deal to a close.

The application of PFIs in the defence sector affects or is affected by some noteworthy issues. Analysis of these issues would not only help develop a better and fuller understanding of defence PFIs but it would also create a solid foundation in analysing specific PFI cases.

### 4.10 MoD's Love Affair with PFIs

Figures 4.1 and 4.2 have shown that the MoD has invested heavily and widely in Defence PFIs. But what is it about PFIs that is pulling the MoD towards it? The MoD firmly subscribes to the view that when PFIs are used in the right way, they offer many advantages not only to the MoD but also to the private sector as well.[128] The MoD, through the PFI guidance provided by the centralised PFU, claims that PFIs offer the advantages of achieving better value for the taxpayers' money when compared with the conventional procurement option. This is realised through the innovative approach of the private sector towards delivering service. Furthermore, PFIs draw on the skills and experience of the private sector that is better than that of the MoD thereby allowing the MoD to benefit from higher quality of services. The whole-life costing approach in PFIs (in contrast to the short-term orientation of conventional procurement) is particularly useful as it ensures that facilities and equipment are built with the aim of providing high quality services over the full term of the contract. The MoD adds that extra rigour is incorporated into the procurement process through due diligence that third party financiers undertake. This puts on additional pressure on the Special Purpose Vehicle to enhance their performance in meeting the requirements of the contract. PFIs offer more

scope for the industry to do business with the MoD both in terms of increased range and size of projects and also by allowing the private sector greater involvement in each project. The increased scope provides the industry with the opportunity of benefiting from economies of scale and of developing new and innovative ideas that can be passed on to the MoD in the form of more value for money services.

But what evidence is there to suggest that these benefits are realised in practice? Can these grand claims (made by the MoD) be justified? Are PFIs delivering to their expectations or are they just a new buzzword that the MoD is determined to spread across the board? The next section moves this research a step forward by looking at the overall performance of Defence PFIs.

### 4.11 Performance of Defence PFIs

The review, in 2005, by the MoD PFU[129] of defence PFIs identified that the performance of over 97% of the PFIs was satisfactory or better with majority of the projects delivering value for money benefits. Furthermore, it was revealed that the outputs delivered met the MoD's expectations in most cases.[130] The review also found that about 77% of projects were delivered on time or earlier (compared to 27% contracts being delivered on time using the traditional procurement method) and where there had been delays, over 88% of the projects were delivered on time or within two months of the agreed delivery date.[131] In some cases such as for Operation TELIC, the assets were complete six months ahead of schedule.[132] The performance measures incorporated in PFIs was found to be generally effective; 41% of the projects sampled faced no performance deductions and for the remaining 59%, the level of deductions were limited to 1 – 2% of the unitary charge.[133]

Although this review highlights that a small fraction of PFIs were delivered late and that some have suffered financial penalties, the overall picture vis-à-vis the performance of defence PFIs that this review paints is rosy. However, it should be noted that some defence PFIs have been complete disasters such as the Armed Forces Personnel Administration Agency[134] and Project Trawlerman where failure costs exceeded £341 million. Success is therefore not always guaranteed by opting for the PFI route but

performance measures enable most PFI assets to be completed not only on time but also meet the MoD's requirements. Timely completion of assets gives PFIs an edge over traditional procurement methods. But is this the only beneficial feature of PFIs? How do PFIs score on cost, risk transfer and given that they are long-term contracts, what sort of flexibility do they offer?

Do PFIs offer cheaper solutions? Typical PFI deals are highly geared with debt to equity ratio ranging from 4:1 to 9:1.[135] This makes finance costs significant in such long-term contracts.[136] But can the private sector secure finance cheaper than the MoD/government? Hartley[137] asserts that governments can always borrow cheaper than the private sector. The cost of borrowing depends on a number of factors; principally the risk of defaulting and the expected returns.[138] Government borrowing is backed by tax revenues and hence it is virtually risk-free whereas with the private sector, there is always some risk of default associated and hence they obtain loans on less favourable terms. Although the Financial Times indicated that the gap between these two rates of borrowing is quite narrow, according to the National Audit Office, given the total value of a PFI contract, private sector finance cost could be significantly higher than public sector finance cost.[139] If PFIs have to be cheaper, then there should be some cost savings in other areas that will more than offset this higher borrowing cost.[140] Uttley[141] argues that the private sector operates in a highly competitive environment, is more innovative in its use of resources (for instance, the PFI for the Future Strategic Tanker Aircraft (FSTA) will be available for non-military purposes when it is not required by the MoD to transport cargo) [142] and can enjoy economies of scale. In this way, the PFI contractor can spread and recoup its costs from a wider client base. But are the savings from non-financial areas greater than the higher borrowing costs thereby making PFIs cheaper for the MoD? Makin asserts although there might be exceptions where PFI is costlier, on average the PFI route is about 10% cheaper than its alternative in spite of the higher borrowing costs; MoD purports that PFI yields cost-savings of between 5 and 40% over the equivalent Public Sector Comparator (PSC). [143] In spite of these encouraging claims by the MoD, the accuracy of these savings is highly dependent on the quality of the Public Sector Comparator and thus the issue of whether PFIs are cheaper than the conventional methods is debateable.

What about risks? Asset construction projects are at all stages of development subject to risks[144] including the risk of time slippages and cost overruns. The underlying theme of PFIs is that risks are allocated between the MoD and industry according to whichever party is better at managing them.[145] In equipment/non-equipment PFI contracts, the construction risk is usually borne by the PFI contractor and the fact that the MoD will only make payments when the service is provided, the risk of cost overruns is borne by the supplier and thus there is every incentive on the private sector contractor to ensure that the contract delivers on time and within budget.[146] MoD PFU[147] stated that only 10% of the PFIs were late by more than two months of their agreed delivery time and a recent National Audit Office[148] report on PFIs revealed that only 23% of the PFI contracts were late compared to 73% contracts late under the traditional procurement method. The massive reduction in the incidence of delays suggests that the likelihood of delays and hence the risk of delays is lower under the PFI route. Hartley[149] asserts that the payment mechanism and performance measures encourage the private sector to better manage the risks allocated to it. But are all those risks allocated to PFI contractors transferred entirely? Some elements of risks transferred are still borne by the MoD because for instance, if a PFI project is not delivered on time, the MoD will not make payments to the PFI contractor (and so the latter bears the financial element of the risk) but the MoD will also not be able to enjoy the services it was promised and hence the MoD will not have the capabilities that it was going to derive from that PFI contract on time - thus negatively impacting MoD's effectiveness. Concerns were raised by the Defence Select Committee[150] that using PFI arrangements for front-line capabilities (such as the FSTA to some extent) is very dangerous as it could allow the private sector to take control of MoD's war-fighting capabilities into its own hands. If such front-line PFI deals fail to perform to their standards, the PFI contractor would be punished through financial penalties but more importantly this failure could have serious implications for MoD's effectiveness. Therefore, although PFIs allow the transfer of the financial implications of risks (unheard of under conventional procurement), complete transfer of risks is difficult, if not impossible.

PFIs are long-term contracts and they need to be able to adapt to changes in the environment (that are both unknown and likely unknowable) so that they remain

effective.[151] Knowing the future with certainty and thus drafting a contract that will take care of every eventuality is difficult, if not impossible. Makin[152] stated that owing to the length of PFI contracts, the MoD has to be sure of what its requirements actually are because changes to the output requirements come at prohibitive costs. For instance, the inability of the MoD to envisage the future IT and staff accommodation requirements while negotiating the PFI deal for the redevelopment of the MoD Main Building resulted in significant savings reduction which the PFI deal was initially promised to deliver.[153] Due to these failures, that were identified and corrected shortly after the deal was signed, this 30-year PFI contract was renegotiated that cost the MoD dearly in terms of time and money. So by signing long-term PFIs, is the MoD locking itself in? The MoD PFU[154] reported that although up to 85% of long-term PFI contracts were flexible enough to accommodate changes and deliver on a sustained basis; it however acknowledged that if changes to contracts were indeed required, a lot of time, effort and cost would be needed. The parties to PFI deals must therefore rely on trust/reputation in order to interpret the contract terms in light of the changing environment so that effectiveness of the MoD is maintained. If these contracts are enforced strictly to the word, changes to the PFI deal requested by the MoD could involve prohibitive legal costs that would not only damage the public – private sector relationship but could also have serious repercussions for the MoD.

## 4.12 Summary

In short, where Defence PFIs have brought advantages to the MoD, in terms of financial implications of risk transfer of cost and time overruns, they have nonetheless also presented challenges such as their inflexibility (due to their long-term nature) and inability to transfer operational risks to the SPVs. Given these limitations, one critical aspect of whether Defence PFIs offer value for money (discussed in Chapter 2) is the financial ability of the SPVs to continue to provide the service over the duration of the contract. Chapter 5 will examine the financial muscle of SPVs involved in the delivery of PFIs in the defence sector.

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# CHAPTER 5

## FINANCIAL ROBUSTNESS OF SPVs IN PFIs

### 5.1 Introduction

In the past century, the provision of defence has been shouldered by both the private and the public sectors. The previous chapter examined the contributions of both these sectors and the reasons behind them. It ended by highlighting the use of one of the newest partnerships between the public and private sectors to deliver defence – the private finance initiative. Defence PFIs, with a total capital value of more than £3.5 billion, enable private sector finance and expertise to be utilised by the MoD over the long-term to deliver defence solutions in several areas of defence such as operational capability and logistical support, operational training, non-operational education and training as well as non-operational infrastructure and logistical support. Lying at the heart of each Defence PFI is a Special Purpose Vehicle (SPV) that is a limited liability company which raises the necessary finance and takes the responsibility of delivering on the PFI contract. The financial health/financial robustness of the SPV is therefore crucial in ensuring that the long-term Defence PFIs continues to deliver. Failure of the SPVs to deliver will have an adverse effect on the capabilities of the MoD and wider repercussions on defence and security in the UK.

The main thrust of this chapter is to examine the financial robustness of the SPVs (involved in the various Defence PFIs) using financial ratio analysis. It begins firstly by redefining some financial terms (in section 5.2) and incorporating these to build a comprehensive set of financial ratios to be used in these assessments (in section 5.3). All PFIs from each of the three main groups of Defence are covered and their SPV's unqualified audited financial statements are used to compute the key financial ratios (in sections 5.4 to 5.10). These are interpreted and any areas of concern (with respect to their financial health) are highlighted. Section 5.11 summarises this chapter and provides a bridge to the next chapter.

## 5.2 Financial Terminology Revisited

The financial statements of a company are prepared to report its financial performance over a period of time (usually a year) and its financial position at a point in time (usually the end of its financial year).[1] The information presented in the financial statements of a company is used for decision-making by its (various) stakeholders: the shareholders (who need to decide their investment-level in the organisation), the lenders (such as banks who need to decide the size of loans that can be lent to the company), suppliers (who need to decide on the credit they could offer to the company), the management (who need to decide how best to improve/sustain the financial performance of the company) and amongst others, the government (who need to decide whether the appropriate level of tax is paid by the company). The quality of decision-making by these stakeholders depends on the quality of the accounting information that the financial statements offer.

Since the word 'quality' implies perfection, it goes without saying that the key characteristic of quality accounting information is its reliability i.e. being free from serious errors and biases. In order to ensure that the reliability of accounting information is not compromised at the stakeholders' end, quality accounting information must possess other attributes as well such as comparability (comparable information is generated when consistent accounting concepts and practices are used so that like accounting information can be evaluated over time and between entities), relevance (accounting information is relevant if it has the ability to influence decision-making that could be with respect to lending money to an organisation, offering credit to a customer or accountability obligations - the timeliness of accounting information further boosts its relevance as it allows information to be available when decisions are made) and understandibility.

The Accounting Standards Board, ASB, issues guidance to companies (in the form of accounting standards) on how different financial transactions are to be reported in their financial statements. One key element of this guidance is the definitions of various financial terminologies. For instance, which expenditures qualify as assets and which do not (in other words how is an asset defined); what should and should not be included

under liabilities (in other words how are liabilities defined). But are these definitions correct? The next three sub sections explore the areas where financial terminologies have to be redefined.

### 5.2.1 Weak Current Assets

In accordance with the Statement of Principles for Financial Reporting issued by the Accounting Standards Board, assets are defined as rights or access to future economic benefits controlled by an entity as a result of past transactions or events.[2] This definition of assets is used in the construction of financial statements and gives rise to the recognition of two different classes of assets: fixed assets and current assets. Fixed assets are those assets that are held for use in the production or supply of goods or services, for rental to others, or for administrative purposes on a continuing basis in the reporting entity's activities.[3] On the other hand, current assets are those that are for the short-term (less than twelve months).[4]

Included within the category of current assets is stock, debtors, prepayments and cash. Of these, stocks are items of inventory held for sale by a company in its own warehouses and therefore under its direct control. Additionally, cash at hand or at bank, is under direct control of a company since the company can withdraw them at will (provided the terms of the bank account allow it to do so). The amounts (up to a certain limit) at banks are guaranteed by the State, and in the case of a bank run, (as happened with Northern Rock in 2007), State intervention ensures that monies kept at banks are secure. Thus, by being under the direct control of a company, stocks and cash live up to the definition of being classed as an asset. Debtors represent amounts owed to a company by its credit customers and prepayments are amounts paid in advance of receiving benefits. In the case of debtors and prepayments, the concerned amounts under these two current asset categories are recognised based on the expectation that debtors will not default and that refunds (for monies paid in advance of receiving the related benefits) will be made at any time the company demands respectively.

However, in reality, the amounts owed by debtors is an asset so long as, third parties, i.e. credit customers, honour their side of sale contracts. In other words, debtors are

recognised as (current) assets depending on the actions of third parties. Thus the amounts owed by debtors are not under the direct control of a reporting entity. A company may not be able to secure all the monies that are owed to it by its credit customers at any point in time. Although the threat of court action, may improve its recovery from debtors, there may be nothing a company may get if its credit customers go bankrupt. Therefore, debtors, at any point in time are not directly under the control of a reporting entity, and thus cannot be classed as (current) assets since the control a reporting entity can exercise with respect to debtors is weak. They should be classed as weak (current) assets because of their inherent nature.

Similarly, in the case of prepayments, there is no absolute guarantee to recover the amounts advanced. Prepayments are recognised as (current) assets based on the expectation that the third party to which money has been advanced will provide the related services in the future or refund the money (if it fails to provide the required benefits). Hence, just like debtors, prepayments are not under the direct control of a reporting entity and should be classified as weak (current) assets.

### 5.2.2 Operating Leases and Financial Commitments

Under SSAP 21, leases are recognised under two categories[5]: finance leases and operating leases. A finance lease is a lease that transfers substantially all the risks and rewards of ownership of the asset to the lessee whilst an operating lease is any lease other than a finance lease.[6] The accounting treatment of finance lease in the books of the lessee requires both an asset and a liability to be recognised. The liability in essence represents the amounts to be paid to the lessor over the long-term including interest. However, in the case of operating lease, since there is no transfer of substantial risks and rewards from the lessor to the lessee, SSAP 21 requires that operating lease payments be recorded as in-year expenses and future lease payments be shown as a note to the accounts of the lessee. The argument put forward in SSAP 21 for such accounting treatment for operating leases, is that since the future services (to be provided under the operating lease) are yet to be realised and therefore at any balance sheet date have not been received, the future operating lease payments cannot be recognised as liabilities since the latter are recognised when there is an obligation on a reporting entity to

transfer economic benefits arising out of a past transaction or event. In other words, the SSAP 21 argument is that since the event or transaction that will result in an obligation on the lessee to make payments and thus lead to the recognition of liability will occur only when the benefits are received, future payments under operating leases should not be recognised as liabilities.

However, at any point in time, a reporting entity that is a lessee with respect to an operating lease, is committed to making financial contributions to the lessor in the future from the time it signs the operating lease agreement. Taking a prudent view of the future, the lessor will continue to provide the services under the operating lease and through no action by the lessee can the latter avoid making such payments. Therefore, the lessee is under obligation to make future payments to the lessor right from the beginning and thus these payments represent future liabilities on the part of the reporting entity (i.e. the lessee). If it is argued that future operating lease payments do not qualify to be recognised as liabilities since the obligation under operating lease is subject to the provision of services by the lessor, it is counter argued that the financial statements of a reporting entity (that is a lessee in an operating lease) must show the assets and liabilities from its side and not incorporate what other parties may or may not do. For instance, at the end of financial year, reporting entities are required to accrue for services they have consumed even though they may not yet have received bills/invoices from suppliers. Such accounting treatments ensures that financial statements of reporting entities is as true and fair as possible from their side.

The principle of double entry bookkeeping requires that when future operating lease payments are recognised as liabilities, a corresponding asset must also be recognised. For this purpose, a weak asset (as defined above) will be recognised equal in value to the operating lease liabilities. This asset is weak since a reporting entity (the lessee) does not have direct control over the future provision of services under the operating lease. However, it is still an asset albeit weak one, since through the operating lease, a reporting entity has secured future potential benefits for itself.

### 5.2.3 Income Recognition

A trawl of the accounting standards reveals that the current accounting practice in respect of income recognition is defined in detail by the Amendment to FRS5 Reporting the Substance of Transactions: Application Note G - Revenue recognition.[7] This accounting standard is founded on the principle that a seller recognises revenue in an exchange contract with a customer when and to the extent that the seller obtains the right to consideration in exchange for its performance under that contract. It defines the right to consideration as the seller's right to the amount received or receivable in exchange for its performance. The note further clarifies that the right to consideration is independent of any amounts falling due in line with a schedule of stage payments that may have been chalked out under the exchange contract with the customer. The Accounting Standards Board argues that although stage payments reflect the agreed timing of payments, the right to consideration arises as a result of the seller's performance.

Therefore, in accordance with the Amendment to FRS5 Reporting the Substance of Transactions: Application Note G - Revenue recognition, a seller (as long as he has earned a right to consideration) recognises income even when the financial consideration in respect of a sale is yet to be received. This implies that this application note equates to a situation where a seller has received financial consideration (for carrying out performance for a customer) to the situation where the seller is yet to receive a financial consideration for the work the seller has performed. Whilst the former situation is a past activity (since money has been received), the latter is a future activity (as money is yet to be received). It could be argued that the amalgamation of these past and future activities may be acceptable in situations where the 'yet to be achieved' income has a very high probability and thus could be construed as 'achieved' income. However, no matter how probable a future event is, the fact remains that it has not yet occurred and thus it cannot be considered the same as 'achieved income'.

Thus, using this application note for preparing financial statements, the figure for income comprises of both the 'achieved' and the 'yet to be achieved' incomes. The purpose of financial statements (as highlighted earlier) is to show the financial

performance of an entity that by definition, relates to all that has been achieved i.e. the past. It cannot relate to the future otherwise there is no difference between an income statement (that shows past performance) and a budget (that shows expected future performance). Therefore by compounding 'achieved' and 'yet to be achieved' incomes, FRS5 does not give a true representation of an entity's financial performance as far as its income figures are concerned and thus income statements prepared under FRS5 suffer from poor reliability and thus are of poor quality.

The big question here then is how should a sale be reported in financial statements? Based on the Amendment to FRS5 Reporting the Substance of Transactions: Application Note G - Revenue recognition and common business practice, it is not difficult to conceive that an exchange contract comprises essentially of two elements: the transfer of goods/services to a customer (i.e. a seller's performance - the cost of goods sold) and the receipt of non-recourse financial consideration by the seller (i.e. a customer's performance - the income) in respect of the goods/services sold. It is imperative to highlight that financial consideration received by a seller in respect of the goods/services sold to him may be taken back by the customer in an exchange contract where the contract gives the customer a right to a refund within a stipulated amount of time. Thus until the time during which refunds will be honoured does not expire, the customer's performance is not complete. It will be completed when the customer no longer has any recourse to the monies paid to the seller; hence the receipt of non-recourse financial consideration and not just any consideration is the deciding factor in assessing whether a customer's performance has occurred.

A seller can exercise direct control over its performance by deciding whether or not it wants to transfer goods or perform services for a customer. But on the other hand, a seller cannot directly control whether or not and when a customer pays for the goods/services received, although the seller can exercise a limited degree of influence in this respect (by for instance offering discounts for early payments or using a debt factor). This means that the two elements of an exchange contract- the seller's performance and the customer's performance are not under the direct control of the seller. In other words, the occurrence of one (i.e. the transfer of goods or performance of

service) does not necessarily result in the simultaneous occurrence of the other (i.e. the receipt of financial consideration by a seller) because a buyer could default or delay performance on his part of the exchange contract. This means that the two elements of an exchange contract are not perfectly positively correlated. There is a degree of independence and thus they should be reported separately - the act of transfer of goods/services (the cost of goods sold) should be reported in the period in which it occurs and the act of receiving money in respect of sales (income) should be reported in the period in which it occurs.

This income recognition criterion is however different from income recognition under cash accounting. In the case of the latter, income is recognised as and when monies are received from customers irrespective of whether or not they relate to a past or a future performance by a seller. But according to this income recognition criterion, income is only recognised when it is received as consideration for a past performance by a seller. Any amounts received for future performances by a seller (i.e. those performances that do not occur in the current accounting period) would be treated as income in advance because the seller has not yet performed his part of the exchange contract and by definition; income is consideration for the work performed by the seller.

Using the aforementioned income recognition criteria, there could be situations where a customer buys goods in one accounting period, $n_1$, but pays for them in full in the next accounting period, $n_2$. In this situation, the cost of goods sold is recorded in $n_1$ (signifying that the goods are no longer under the direct control of the seller and thus showing that the seller has performed its part under the exchange contract) but the resulting income is recognised in the next accounting period, $n_2$ (showing that the customer's performance occurred in $n_2$). Keeping in mind that the purpose of financial statements is to present the financial version of the activities of an entity, in this situation, the financial statements for $n_1$ and $n_2$ precisely depict this reality in financial terms over the two accounting periods.

More specifically, in the case of long-term contractual performance (such as in the case of PFIs), the Amendment to FRS5 Reporting the Substance of Transactions:

Application Note G - Revenue recognition spells out that a seller should recognise income in respect of its performance under a long-term contract when, and to the extent that, it obtains the right to consideration. It further states that the monetary amount of the right to consideration should be assessed by comparing the fair value of goods or services provided during the reporting period to the total fair value of the contract. This means that irrespective of the seller receiving payments for work completed during the reporting period, the seller is required by this application note to recognise income equal to the right to consideration for the work performed during the reporting period. As discussed earlier, income recognition in this way erroneously considers the 'achieved' and the 'yet to be achieved' income as the same thereby posting a figure for income earned by the seller when the customer has yet to perform on its part of the exchange contract. Using the income recognition criteria outline above, income on such long-term contracts will only be recognised when non-recourse payments have been made to the seller; signifying that income is recorded when the customer performs his part of the exchange contract.

In an extreme case, if a long-term contract spreads over several accounting periods and the customer pays for the work only at the completion of the entire contract, then income should be recognised only when the entire work is complete. In this way, the financial statements of the seller over the several accounting periods will depict the fact that although the seller has been performing on his part of the contract, the customer performed when the contact was complete. In this way, the financial statements of the seller will be presenting the reality of events, in financial terms, as they occur. It could be argued that in such a case, the financial statements of the seller would show high levels of expenditure (and therefore possibly low profits) in the accounting periods preceding that in which the customer makes the payment and high incomes (and thus high profits) in the accounting period in which the customer makes a payment. If this is how the seller and the customer have negotiated the long-term contract, then the financial statements of the seller will just be reflecting the activities of the seller in financial terms - this is the real purpose of financial statements: to present reality (in financial terms) as it has occurred without changing it so that the different stakeholders on an entity can make better economic decisions based on the truth.

In a nutshell, in the case of PFIs, incomes (by SPVs) should therefore be recorded only when payments towards the unitary charges are received.

## 5.3 Financial Ratios to Examine Financial Robustness of SPVs

As discussed in Chapter 2 section 2.6, SPVs are limited liability companies created to deliver PFI contracts in Defence. They sign these long-term contracts with the MoD and are responsible for raising the necessary finance required and for ensuring that the deliverables meet the criteria set by the MoD. They thus play a pivotal role in the implementation of Defence PFI contracts. It goes without saying that the success of any Defence PFI contracts lies in the ability of the SPV to honour its side of the contract. One way of assessing this ability is by testing the financial robustness of SPVs during the execution of PFIs.

Although the financial statements of the SPVs contain large number of entries, the latter by themselves do not necessarily convey information about the financial position of SPVs, their financial performance or their financial adaptability. Financial ratios provide a quick and relatively simple way of assessing the financial health of a business.[8] Additionally, financial ratios can also be helpful when comparing the financial health of similar companies over the same time period.[9] Drury concludes that financial ratios have predictive powers and can be used for predicting company failures.[10] Additionally, they can be used in identifying differences in financial ratio averages between groups of companies.[11] Adams agrees that financial ratio analysis (based on the calculation of a series of individual ratios using data from the trading accounts and balance sheet) is the most commonly used financial technique used to highlight impending failures in companies.[12]

Moreover, some financial ratio analysis models have also been developed and used for predicting company failures. One of the most common amongst these is the Z-score model developed by Altman.[13] This model contains five predetermined ratios each with its own weighting such that the sum of the products of the ratios and weightings gives a Z-score. Altman concluded that companies with a Z-score of more than 2.99 were in the non-bankrupt category whilst those with a Z-score of less than 1.81 belonged to the

bankrupt category.[14] These predetermined ratios used in Altman's model are based on the traditional definitions of assets, leases and income recognition. They are not based on the redefined financial terminologies examined and justified in section 5.2 and its sub-sections. When the financial ratios are calculated (for the Altman model) using the revised definitions, the weightings used in Altman's model cannot be used since the latter are for the traditional definitions of financial terms. Using the redefined financial terminologies requires recalculation of the weightings. Additionally, Altman's model only reveals whether a company is in the bankrupt or the non-bankrupt category. It does not show which areas (such as profitability, liquidity or gearing) of a company are financially weak and which are financially strong. Hence Altman's model will not be used in this research to examine the financial robustness of SPVs engaged in the delivery of Defence PFIs.

Therefore, the financial robustness of the Special Purpose Vehicles (SPVs) for the various Defence PFI contracts will be assessed by using the financial statements (i.e. income statements/profit and loss accounts and balance sheets) of the SPVs to calculate (and interpret) financial ratios and comparing them year-on-year over a number of years as well as comparing them with those of other SPVs in the same/similar sector of Defence. Calculating ratios for two or three years is insufficient enough to identify any meaningful trends in them. The longer the time period over which financial ratios are calculated the better the picture of any trends in them can be observed. Atrill and McLaney have suggested that in order to observe trends in financial ratios, they need to be computed for periods ranging from five to ten years.[15] Thus, financial ratios for SPVs involved in Defence PFIs will be calculated over a period of six years.

There is no generally accepted list of financial ratios that can be applied to financial statements of companies.[16] However, the common categories of financial ratios calculated can be grouped into three.[17] Hence, the three categories of financial ratios will be calculated for the SPVs: 1) profitability ratios (that will reveal the return the SPVs provide); 2) liquidity and working capital ratios (that will allow an assessment to be made of the quality of profits made by SPVs); and 3) gearing ratios (that will highlight the funding mix of SPVs (debt and equity) and whether or not the SPVs can

afford their funding mix). Investor ratios such as price/earnings ratio will not be calculated because for such ratios to be computed share price of SPVs needs to be determined. Since the SPVs are private limited companies and are not listed on any stock exchanges, their share prices cannot be determined thus making it impossible to calculate investor ratios. There is no standard formula to calculate the three main categories of ratios. What is more important is that any formula used to calculate financial ratios is consistent across time periods and across the different SPVs.[18] The formulae used to calculate the financial ratios (shown in the appendix) have inculcated the revised financial terminology examined in sub-sections 5.2.1 to 5.2.3. Thus, when calculating the financial ratios, all weak assets will be excluded. Therefore, debtors and prepayments will be excluded since they are weak assets (as explained in section 5.2.1). Liabilities in respect of operating lease payments will be included (based on the examination in section 5.2.2). Income will be included based on the amount of cash received in that respect (as argued in section 5.2.3).

It should be noted that when SPVs were analysed using financial ratios, some of the ratios turned out to be meaningless because they were negative. In all situations where this is the case, meaningless ratios are off the scales (i.e. they are beyond the limits of a financially healthy company) and they reveal that the financial condition of the company is in a very poor state.

## 5.4 Financial Robustness of Defence SPVs

Defence PFIs can be grouped into four main categories: accommodation, equipment, training and other.[19] However the scope of this research is limited to the first three categories because in the last category, Defence PFIs are all unique. Therefore, they cannot be studied as a category and will be left out of this research. In this section, SPVs of all Defence PFIs from each of the three categories (as shown in Table 5.1), except a few, will be examined using the financial ratios described in the earlier section, to reveal their financial robustness.

Appendix B shows a list of all Defence PFIs in operation as at 31st March 2013, as compiled by HM Treasury. It also shows the Defence PFIs that will be studied in this

research and those that will be left out, and why. There are essentially three reasons why a number of Defence PFIs from the categories of accommodation, equipment and training have been left out from this research. Firstly, the financial statements of SPVs of Defence PFIs that have been left out have been prepared using IFRS accounting standards. On the other hand, the financial statements of SPVs of all the other Defence PFIs have been prepared using FRS accounting standards. Accounting standards regulate the formation of the financial statements of the SPVs. Different accounting standards will lead to different figures reported in the financial statements and thus different financial ratios. Thus, like will not be compared with like and this is the reason Defence PFIs whose SPVs financial statements have been prepared using IFRS will not be studied.

Secondly, some of the Defence PFIs listed in Appendix B do not operate using the SPV model. In other words, they do not operate through an exclusive limited liability company. Instead they operate through companies that are engaged in works other than delivery of Defence PFI services. All the other Defence PFIs operate using the SPV model. This research is about the evaluation of the financial robustness of SPVs. Those SPVs, and hence those Defence PFIs, cannot be studied where the SPV model is not used.

Lastly, there are some Defence PFIs that have been in operation for less than 3 years within the study period 2006 to 2011. In respect of all the other Defence PFIs, the financial statements of their SPVs will be analysed over the period from 2006 to 2011. In the case of the former, 3 years data are not enough for financial ratio analysis and therefore these Defence PFIs have been left out from this research.

**Table 5. 1:Case studies and sub-case studies to be analysed**

| **Case study category** | **Sub-case study** |
|---|---|
| Case Study 1: Accommodation | A: Project Allenby/Connaught |
| | B: Project Central Scotland Family Quarters |
| | C: Project Colchester |

| | |
|---|---|
| | D: Project Main Building Refurbishment |
| | E: Project Tricomm Housing (Portsmouth) |
| | F: Project Devonport Support Services Armada |
| | G: Project RAF Lossiemouth Family Head Quarters |
| | H: Project Wattisham Married Quarters |
| | |
| Case study 2: Equipment | A: Project C Vehicles |
| | B: Project Field Electrical Power Supply |
| | C: Project Heavy Equipment Transporter |
| | D: Project Naval Communications |
| | E: Project Skynet 5 |
| | |
| Case study 3: Training | A: Project Army Foundation College |
| | B: Project Astute Class Training Services |
| | C: Project Attack Helicopters Training |
| | D: Project Defence Sixth Form College |
| | E: Project Joint Services Command And Staff College |
| | F: Project Hawk Simulator |
| | G: Project Medium Support Helicopter Aircrew Training Facility |
| | H: Project RAF Sentry E-3d |

Source: Author

## 5.5 Defence PFI Case Study 1: Accommodation

Defence PFIs in this category are engaged in the provision of living accommodation to members of the armed forces. The MoD specifies the outputs i.e. what facilities should be provided to residents and the SPV designs, builds, finances and delivers outputs that

match the MoD's requirements. The various PFIs in this category are analysed through the use of financial ratios in the sub-sections below.

### 5.5.1 Sub-Case Study A: Project Allenby/Connaught

The SPV created to deliver this PFI contract is Aspire Defence Ltd. This PFI project involves the design and build of new living accommodation, other similar structures supporting infrastructure and amenities at sites on Salisbury Plain and in Aldershot, the demolition and refurbishment of various assets in those areas and the provision of certain hard and soft facilities maintenance services to those assets and to other existing assets at the sites and associated locations over the contract duration.[20] This PFI contracts was signed on 6 April 2006 and will run for 35 years.[21]

Using the unqualified audited financial statements of Aspire Defence Ltd over the period 2006 – 2011, the following ratios were calculated as shown in Table 5.2.

**Table 5. 2: Key financial ratios of Aspire Defence Ltd**

| **Aspire Defence Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 63.12 | 136.81 | 27.37 | 30.88 | 17.85 | 8.24 |
| PBIT/Sales % | 10.75 | 10.09 | 10.48 | 11.19 | 7.57 | 3.45 |
| Sales/Capital employed times | 5.87 | 13.55 | 2.61 | 2.76 | 2.36 | 2.39 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 2.60 | 1.81 | 4.39 | 5.30 | 5.35 | 4.23 |
| Liquid assets/current liabilities times | 2.60 | 1.81 | 4.39 | 5.30 | 5.35 | 4.23 |
| Trade debtors/sales x 365 days | 2.09 | 2.22 | 2.95 | 0.89 | 11.74 | 13.35 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 2.41 | 2.80 | 2.79 | 1.06 | 2.52 | 0.71 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 25.72 | 30.38 | 36.75 | 44.42 | 206.90 | -474.29 |
| Interest cover % | 65.70 | 71.78 | 74.01 | 38.47 | 54.82 | 87.69 |

Source: Computed from the annual financial statements of Aspire Defence Ltd 2006 – 2011

With regards to profitability, Aspire Defence Ltd's ROCE started off at 8.24% in 2006 and climbed less steadily over the years to 2010 where ROCE was phenomenally high at 136.81% before dropping to 63.12% in 2011. In absolute terms, PBIT over the years moved upwards from the years 2006 to 2008 but remained steady for the next two years before dropping slightly in 2011. The capital employed in Aspire Defence Ltd remained steady in the years 2007 – 2009, but dropped significantly in 2010. This sudden drop in 2010 explains the significantly higher ROCE recorded in that year. There is no mention of any reasons why the capital employed dropped so suddenly in 2010 that can be sourced from this SPV's annual accounts. The profit margin began at 3.45% in 2006 and rose to 11.19% in 2008 but then remained steady for the remaining years. It seems that in the first two years, Aspire Defence Ltd was adjusting its costs and incomes and from 2008 onwards it started to earn a steady profit margin of about 10%. More interestingly, the asset utilisation ratio had remained steady over the years except in 2010 where it rose dramatically because of the sudden drop in the capital employed in that year. Thus the rising level of the overall profitability of this company until and including 2009 could be attributed to the rising and later on steady profit margin levels achieved in those years. Thus overall, Aspire Defence Ltd's profitability increased. But how good were these profits? In other words, did the liquidity position of this company move in tandem with its profitability position? This will be revealed by examining the next category of ratios.

Since the company does not hold stocks, the current ratios and the acid test ratios were identical. They were both more than the 2.0 times and 1.0 times respectively – levels that are considered ideal. In fact they both started at 4.23 times in 2006 rising to 5.35 in 2007 before dropping from 2008 onwards and registering a significant drop to 1.81 in 2010. This huge change in 2010 was attributed to the sudden decrease in the capital employed in that year. Nevertheless, these ratios showed that Aspire Defence Ltd's short-term liquidity was in excellent shape over these years.

Due to the fact that this company does not hold stocks, the cost of sales/stocks and stocks days' ratios are not applicable. The trade debtors' days showed that over the years, this company had become increasingly effective in recovering monies it is owed

by the MoD. In 2006 and 2007, it took Aspire Defence Ltd 13.35 days and 11.74 days respectively to recover amounts owed by its customer (i.e. the MoD) but from 2008, this dropped dramatically down to under one day in 2008 before rising to just over 2 days in 2010. This could be attributed to the nature of the PFI contract where SPVs, like this company, do not get paid until certain milestones have been achieved. Trade creditors' days had risen over the years from 0.71 days in 2006 to 2.80 days in 2010. Since the trade creditors' days never exceeded 3 days over the years, it meant that most of the purchases were done on cash basis or on very short-term credit basis. The working capital cycle came under stress from the year 2008 onwards when trade debtors' days were almost equal to (and sometimes lower) than trade creditors' days. This meant that it was taking Aspire Defence Ltd longer to get money from its customer than it had time to make payments to its suppliers; although this difference was of only a couple of days.

The borrowing ratio started off at -474.29 in 2006 and that meant that debt was about 5 times as large as equity; the latter happened to be negative, because Aspire Defence Ltd made a loss in its first year. In 2006, this SPV was funded through loans of about £1.5 billion against paid up share capital of £50,000 and a loss of £2.5 million in 2006. In PFI contracts, SPVs are usually highly geared since majority of their funding comes in the form of loans. The borrowing ratio then dropped significantly in 2007 and 2008 and then continued to drop in the remaining years albeit more steadily. This is explained by the fact that although the loans had slightly increased over the years, equity had been rising faster over the same time. Equity had been rising because although paid-up share capital had remained constant, the SPV had been making increasing amounts of profits after the loss making year of 2006. But can Aspire Defence Ltd afford its mix of funding? The interest cover ratio showed that about 88% of PBIT in 2006 was taken by interest payments to third party financiers who provided the lion's share of funding in PFI contracts. Interest cover dropped in 2007 and 2008 (that are good signs of financial health) but then increased to about 70-75% in 2009 and 2010. The annual accounts of Aspire Defence Ltd showed that it received interest from guaranteed investment contracts. Over the years, the interest received had been declining whilst interest payments had been rising. This could possibly be attributed to the effect of the financial

crises, where debt capital has become more expensive whilst interest rates on savings and the like have dropped.

Thus overall, Aspire Defence Ltd had been increasingly profitable with an excellent short-term liquidity position and very little strain on the working capital cycle. Although this company had not been highly geared since 2008, the interest cover ratio had been high from 2009. This high interest cover ratio for Aspire Defence Ltd runs the risk of it not being able to honour interest payments on the loans it has acquired; the latter accounting for about the majority of its funding.

### 5.5.2 Sub-Case Study B: Project Central Scotland Family Quarters

The financial close of this PFI contract occurred in August 1999 between the Defence Housing Executive and Bannockburn Homes Ltd, the SPV. This 20 years contract involves the provision of accommodation for service families in Edinburgh and Glasgow.[22] Financial ratios from the unqualified audited annual accounts of Bannockburn Homes Ltd are shown in Table 5.3 below:

**Table 5. 3: Key financial ratios of Bannockburn Homes Ltd**

| **Bannockburn Homes Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 10.68 | 8.85 | 8.52 | 8.37 | 7.23 | 7.71 |
| PBIT/Sales % | 88.60 | 87.23 | 84.81 | 83.09 | 80.47 | 82.60 |
| Sales/Capital employed times | 0.12 | 0.10 | 0.10 | 0.10 | 0.09 | 0.09 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 0.86 | 0.89 | 0.90 | 0.79 | 1.44 | 2.59 |
| Liquid assets/current liabilities times | 0.86 | 0.89 | 0.90 | 0.79 | 1.44 | 2.59 |
| Trade debtors/sales x 365 days | 0.82 | 31.59 | 8.60 | 5.30 | 3.48 | 2.21 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 29.22 | 57.21 | 68.28 | 419.75 | 49.59 | 21.67 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 1.86 | 2.14 | 2.37 | 2.65 | 2.94 | 3.17 |
| Interest cover % | 43.02 | 51.90 | 53.35 | 51.89 | 52.84 | 50.61 |

Source: Computed from the annual financial statements of Bannockburn Homes Ltd 2006 -2011

In terms of profitability, Bannockburn Homes Ltd registered a positive ROCE of 7.71% in 2007. This had been on an upward trend ever since. This meant that for every £1 invested by this SPV, it was able to generate 10.68 pence in 2011. Both PBIT and capital employed over the years had been rising steadily; the possibility of the rise in ROCE due to significant changes in either the denominator or numerator or both is thus ruled out. The average interest rate paid over these six years on the loans taken up by this SPV turned out to be around 6.6%. Comparing this with the ROCE over the same duration, it can be seen that Bannockburn Homes Ltd was making a decent amount of profit on its investments. The profit margin had been steadily rising from 82.60% in 2006 to 88.60% in 2011. This is certainly significantly higher than that achieved by Aspire Defence Ltd that was involved in a PFI contract involving accommodation. There was nothing in the annual statements that explained this abnormally high profit margin. Interestingly, the asset utilisation ratio for Bannockburn Homes Ltd had remained constant at about 0.10. This meant that the SPV had not improved utilisation

of its assets over the years. In a nutshell, the steadily rising ROCE can thus be attributed to the steadily increasing profit margins.

Due to the inherent nature of its business, Bannockburn Homes Ltd does not hold stock and therefore, both the current ratios and the acid test ratios are identical. Keeping in mind the ideal levels of 2.0 times and 1.0 times for the current ratio and the acid test ratio, in 2006, both these ratios stood at 2.59 times; well in excess of the ideal standards. However, from 2007 onwards, these ratios had been on the decline (albeit steadily), and from 2008 onwards they had been less than 1.0 times, such that in 2011, current assets were able to cover only 86% of the current liabilities. This meant that for the past four years, this SPV did not have enough current assets to convert into cash and pay its current liabilities; meaning it was operating at the mercy of its suppliers. If Bannockburn Homes Ltd enjoys good relationships with its suppliers, this low level of ratios would not be of too much concern. However, if all the suppliers were to demand full payments of the amounts owed to them, Bannockburn Homes Ltd would not be able to fulfil this demand without possibly liquidating its fixed assets or raising funds immediately either from its banks or shareholders.

Trade debtors' days have been on the rise since 2006; and in 2010, they suddenly jumped to just over 31 days before dropping significantly to 0.82 days. Since the MoD is the main customer of this SPV, these rapid highs and lows could be linked with the MoD's schedule of payments. However, the otherwise steady rise in trade debtors' days from 2006 indicated that Bannockburn Homes Ltd was progressively getting less effective in recovering the amounts owed to it. In regards to the trade creditors' days, this had been rising from 2006 before assuming a downtrend from 2010 onwards. The results of 2008 skewed the rest of the data. Further investigation showed that in 2008, this SPV had accumulated higher than normal levels of trade creditors at the year-end for no apparent reason. Comparing the trade debtors' days with the trade creditors' days, it was seen that Bannockburn Homes Ltd had been recovering monies from its customer much faster than the time it took to pay its suppliers. Taking into account the low liquidity ratios examined earlier, it seems to suggest that this company enjoys good

relationships with its suppliers as it can afford to delay payments to them by as much as about 70 days.

The borrowing ratio had been on a downtrend since 2006 when it stood at 3.17 times compared with 1.86 times in 2011. This meant that the proportion of funding from the banks compared to that from the shareholders had over the years declined. Although the loans (in absolute terms) had more or less remained steady over this period, equity had been rising since the SPV had been earning increasingly greater profits. With the borrowing ratio at its highest in 2006 at 3.17 times, this figure is atypical of SPVs in PFIs that by the nature of their business are usually highly geared. An examination of the interest cover showed that about half of PBIT earned by this SPV was paid out in interest to the third party financiers. This left just half of the PBIT to be split between the taxman and the shareholders (or otherwise to be reinvested in the business). The interest cover had thus been maintained at an affordable level over these years i.e. the interest bill had always been lower than the PBIT thereby enabling it to record profits over the last six years.

In summary, Bannockburn Homes Ltd had been witnessing steadily rising overall profitability due mainly to the increasing profit margins. However, the short-term liquidity position of this SPV had been deteriorating over the years. This worsening condition in terms of liquidity could be a cause for concern but if Bannockburn Homes Ltd enjoys good relationships with its suppliers, then it may cause no harm to it in the long run. The working capital cycle was not under any stress as there was a huge gap between the trade debtors' days and the trade creditors' days; giving this SPV plenty of time to hold on to the cash received from its customer. The funding mix that had been adopted by Bannockburn Homes Ltd showed a decreasing level of gearing accompanied by a decreasing interest cover. Both these ratio depict an improving financial health for this company.

### 5.5.3 Sub-Case Study C: Project Colchester

The principal activity of RMPA Services plc, the SPV lying at the heart of this PFI contract, is to design, build and service the new Colchester Garrison.[23] This contract

came to a financial close on 9th February 2004 and will run for 35 years. The financial ratios calculated from the unqualified audited annual accounts of this company are shown in Table 5.4 below:

**Table 5. 4: Key financial ratios of RMPA Services plc**

| **RMPA Services plc** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 14.49 | 15.03 | 9.33 | 66.13 | -67.23 | 17.48 |
| PBIT/Sales % | 15.70 | 17.22 | 4.71 | 5.93 | 2.66 | 1.78 |
| Sales/Capital employed times | 0.92 | 0.87 | 1.98 | 11.15 | -25.31 | 9.81 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 2.28 | 3.42 | 8.08 | 0.56 | 0.55 | 1.39 |
| Liquid assets/current liabilities times | 2.28 | 3.42 | 8.08 | 0.56 | 0.55 | 1.39 |
| Trade debtors/sales x 365 days | 0.61 | 0.40 | 0.47 | 0.33 | 0.25 | 0.52 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 4.31 | 11.35 | 1.21 | 4.09 | 0.26 | 0.78 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | -18.28 | -22.14 | -23.21 | -25.63 | -26.00 | -36.00 |
| Interest cover % | 6.62 | 39.58 | 304.67 | 84.16 | 324.64 | 575.52 |

Source: Computed from the annual financial statements of RMPA Services plc 2006 -2011

A quick glance at the ROCE ratios showed that this company has been profitable in the past six years. The -67.23% figure for ROCE in 2007 was negative because the capital employed was negative. This was due to the fact that a huge proportion of the current assets of this company in 2007 comprised of debtors that as explained earlier, are considered to be weak assets and therefore not included in the ROCE calculations. In the subsequent year, ROCE jumped to 66.13% because of two reasons: firstly PBIT in 2008 turned out to be more than double that in 2007 and secondly because capital employed increased three fold from the previous year. With the exception of the ROCE for these two years, ROCE from 2009 onwards had been rising with a small dip in 2011. Nevertheless, the ROCE in at least the last three years was greater than the average interest rate paid in those years; thus ensuring that RMPA Services plc generated a

return for every £1 invested in excess of its costs. The profit margin had been on an uptrend over the six years; dipping slightly in the last year despite the fact that sales over these years had been declining such that in 2011, sales stood at just over £25 million compared with £171 million in 2006. However, the cost of sales had been dropping slower than sales resulting in a rising profit margin. Sales figures took a deep hit in 2009 and had been steadily declining ever since. This seems to indicate that the garrison was completed sometime in 2008, and from 2009, the SPV was no longer receiving money for the construction of the PFI asset but only for providing services. Indeed the annual accounts of RMPA Services plc for 2009 stated that the final construction phase was completed in April 2008. When examining the asset utilisation ratio, (and excluding the skewed results for 2007 and 2008) this had been also decreasing over the years.

Like the other two SPVs, RMPA Services plc does not hold stock and consequently, both the current and acid test ratios are identical. It peaked in 2008, when these ratios touched 8.08; however, with the exception of 2007 and 2008, in all other years, the ratios had been more than 2 (other than in 2006 when they stood at 1.39). These are higher than the ideal levels of 2.0 times and 1.0 times for the current ratios and the acid test ratios respectively. This showed that in the short-term this SPV was very comfortable to cover its current liabilities. This comfortableness was boosted by the fact that its current assets comprised only of cash. This meant that if the short-term suppliers of RMPA Services plc were to demand full payment, this SPV would have no problem settling its accounts with them.

The trade debtors' days had been very low over the six years; rising to a maximum of 0.61 days. This showed that this SPV was receiving its monies from the MoD on time. On the other hand, trade creditors' days had been increasing; they stood at 0.78 days in 2006 and soared to 11.35 in 2010 before coming down to 4.31 days in 2011. Nonetheless, the working capital cycle was free from strain as the SPV had ample time to make payments to its suppliers.

The borrowing ratios had been negative over the last six years. This has been due to the fact that the company had been registering a loss in five out of the last six years. ROCE had been positive over this period (with the exception of 2007), because, ROCE uses PBIT to calculate returns. However, interest and taxation payments had been higher than PBITs in those five years; thereby resulting in losses. With called up share capital of £50,000, the losses incurred were so great as to turn equity into negative. Thus the borrowing ratios had been negative throughout. These ratios do point out the interesting fact that this SPV's funding from loans had ranged from 36 times to 18 times its negative equity. Meaning the company had no funding from its shareholders (and profits reinvested) and yet had huge amounts of debt. The total borrowings in each of the six years were many times the value of the fixed assets of RMPA Services plc. Thus the third party financiers involved in this PFI were bearing an enormous amount of risk, for if this SPV were to go bankrupt, there is no way for them to recover the amounts they have advanced to this company.

The interest cover had been declining over the years, although in 2006, 2007 and 2009 the interest payments were respectively 5 times, 3 times and 3 times larger than the PBIT. This meant that in these years, this SPV could not honour its loans fully. Coupled with the fact that equity was negative in all these years, this was a difficult situation to be in. However, from 2010, interest cover had been decreasing such that in 2011, it had come down to 6.62%. This was an improvement of the situation for RMPA Services plc.

Overall, although ROCE had been positive and rising, the company had been making losses (after deducting interest and tax) year on year resulting in negative equity. This demonstrated that its funding from third party financiers was costing it dearly. The short-term liquidity position of the company had been good and there was no stress on the working capital cycle. However, the borrowing ratio had been greater than one (in absolute terms) and negative. This is coupled with an exorbitantly high interest cover in 2006, 2007 and 2009 meant that during these years the SPV could not service its loans. The accumulation of losses and the growing negative equity of RMPA Services plc are worrying; although the directors of the company believe this SPV to be a going concern

in the foreseeable future it is difficult to say with certainty that things will turn around for the better.

### 5.5.4 Sub-Case Study D: Project Main Building Refurbishment

On 4th May 2000, the Secretary of State for Defence signed a PFI contract with Modus Services Ltd for the designing, refurbishment, redevelopment, financing, maintaining and operation of certain MoD office facilities in London.[24] The financial ratios covering profitability, liquidity, working capital cycle and gearing based on the unqualified audited financial statements of Modus Services Ltd are shown in Table 5.5 below:

**Table 5. 5: Key financial ratios of Modus Services Ltd**

| **Modus Services Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 159.31 | 117.03 | 1,071.60 | 64.29 | 52.16 | 115.93 |
| PBIT/Sales % | 26.80 | 23.48 | 24.76 | 25.01 | 27.75 | 44.50 |
| Sales/Capital employed times | 5.94 | 4.99 | 43.28 | 2.57 | 1.88 | 2.61 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 1.13 | 1.18 | 1.02 | 1.35 | 1.57 | 1.59 |
| Liquid assets/current liabilities times | 1.13 | 1.18 | 1.02 | 1.35 | 1.57 | 1.59 |
| Trade debtors/sales x 365 days | 97.01 | 107.23 | 101.41 | 114.07 | 104.10 | 88.16 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 126.64 | 173.64 | 243.43 | 408.77 | 245.76 | 198.61 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 13.98 | 28.92 | 230.26 | -111.45 | -314.25 | -218.05 |
| Interest cover % | -153.08 | -163.86 | -23.92 | -18.12 | -66.76 | -40.79 |

Source: Computed from the annual financial statements of Modus Services Ltd 2006 -2011

The ROCE ratios had been positive throughout the last six years and excluding the extreme value recorded in 2009 of 1,071.60%, an upward trend in these ratios was observed. This goes to show that the company had been witnessing increased profitability over the years. In 2009, capital employed dropped significantly compared with that in 2008.This was because at the year end, there was a pile of creditors to be

paid. This caused the ROCE ratio in 2009 to be out of sync with the ratio in the other years. PBIT had been more or less steady from 2007 onwards. The ROCE in all the six years was well in excess of the average interest rate of about 7.5% paid on the loans acquired by Modus Services Ltd. An examination of the profit margin ratios revealed that with the exception of 2006 when the profit margin stood at 44.50%, in the other years, profit margin had been oscillating around the 24% mark. This indicated that this SPV had been able to set its prices and control its costs very well. With the exception of the extreme value registered in 2009, the asset utilisation ratio had been on an uptrend: rising from 2.61 in 2006 to 5.94 in 2011. This meant that Modus Services Ltd had been progressively more effective in utilising its assets to generate sales. This is explained by the fact that sales had been rising from 2007 onwards at a pace faster than capital employed.

Due to the lack of stocks held by this company, current and acid test ratios are identical. However, over the years they had been deteriorating; from 1.59 times in 2006 to 1.13 times in 2011. Thus over this time period, the current ratios had been below the ideal standard of 2.0 times. It meant that in 2011, when the current ratio was at its worst, the current assets that comprised of cash only, were just able to cover the current liabilities. Thus, although there was a downtrend observed in the current ratios, but since the current assets comprised of only cash over these six years (and given that at all times the current ratio was more than 1.0 times), this put this SPV in a comfortable short-term liquidity position. The trade debtors' days had been swinging between 88.16 days and 114.07 days; albeit no defined trend was observed in these ratios. Similarly, no observable trend was traced in the trade creditors' days over the last six years. It ranged from 408.77 days in 2008 to 126.64 days in 2011. But in each of these years, the trade creditors' days was always greater by at least 29 days than the trade debtors' days thereby indicating that Modus Services Ltd was recovering amounts from its customer at a pace that was slower than that at which it paid its suppliers. This gap that ranged from 29 days to 294 days over these years did not put the working capital cycle under any stress. This is because this company was able to hold onto the cash received from the MoD for great lengths of time before it made payments to its suppliers. The company had been saving these cash amounts in interest bearing accounts and had been

earning interest on them. This made good financial sense especially when the gap between trade creditors' days and trade debtors' days was so huge. The fact that the trade creditors' days were at least 120 days, this seems to suggest that Modus Services Ltd was enjoying a healthy relationship with its suppliers.

With regards to gearing, the borrowing ratios were negative in the years 2006 to 2008 because equity was negative in these years. Although PBIT had been positive in these years, the profits recorded after taking into account interest and taxation had been negative. These losses that run into millions of pounds could not be compensated by the paid-up share capital in these years and thus equity remained negative during this time period. From 2009 onwards, when net profit figures became positive, the borrowing ratio turned positive but was still very high. This was because although total borrowing had been falling since 2007, the accumulated losses in the first few years followed by rising net profit figures from 2009 onwards caused equity to rise albeit much slower. In 2011, total borrowing stood at about 14 times equity. Thus from at least 2009 onwards a downward trend in the borrowing ratios was observed that was a positive sign; because by the end of the PFI contract, this ratio should be reduced to very low values so that the shareholders can make a return on their investment. For Modus Services Ltd, interest received has been greater than interest payable in all the six years. Thus the interest cover ratios showed the proportion of net interest receivable to PBIT and that showed that there has been absolutely no problem for this company to service its loans.

Overall, this company had been witnessing rising levels in profitability although the short-term liquidity position had been deteriorating. But since the current assets comprise of only cash, that is the most liquid asset, over the six years, the worsening short-term liquidity position should not be a cause for concern. However, if the downward trend continues, this SPV may find itself in a situation where it in unable to cover its current liabilities and that could be worrying if the suppliers become aggressive with Modus Services Ltd. The working capital cycle does not seem to be in any stress as there is a huge gap between the trade debtors' days and the trade creditors' days. The borrowing ratio has been moving downwards from 2009 onwards that is a

step in the right direction. This company need not worry about its interest cover at all since its interest payments have been more than offset by the interest it receives.

### 5.5.5 Sub-Case Study E: Project Tricomm Housing (Portsmouth)

In October 2005, a £35 million 25 years PFI agreement between the MoD and the Tricomm Housing (Portsmouth) Ltd reached its financial close.[25] This PFI involved the building of 148 houses on the site of a former naval airbase.[26] The construction of the houses was completed in early 2007, two months ahead of schedule.[27] The houses were built to the latest standards with a high level of insulation.[28] Over the remaining duration of this PFI contract, Tricomm Housing (Portsmouth) will be responsible for on-going maintenance, repairs, and grounds maintenance and estate management. Using unqualified financial statements of Tricomm Housing (Portsmouth) Ltd, the following financial ratios (shown in Table 5.6) were calculated:

**Table 5. 6: Key financial ratios of Tricomm Housing (Portsmouth) Ltd**

| **Tricomm Housing (Portsmouth) Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 5.74 | 5.66 | 5.60 | 5.50 | 3.42 | 0.72 |
| PBIT/Sales % | 79.44 | 80.89 | 81.82 | 81.56 | 64.74 | 44.09 |
| Sales/Capital employed times | 0.07 | 0.07 | 0.07 | 0.07 | 0.05 | 0.02 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 1.04 | 1.21 | 1.70 | 2.16 | 1.79 | 0.09 |
| Liquid assets/current liabilities times | 1.04 | 1.21 | 1.70 | 2.16 | 1.79 | 0.09 |
| Trade debtors/sales x 365 days | 33.42 | 33.40 | 32.60 | 34.92 | 43.53 | 92.67 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 53.31 | 95.86 | 56.32 | 40.66 | 25.66 | 2,044.93 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 19.34 | 19.98 | 27.05 | 42.10 | 87.65 | 100.70 |
| Interest cover % | 77.25 | 77.83 | 77.03 | 77.90 | 86.21 | 125.30 |

Source: Computed from the annual financial statements of Tricomm Housing (Portsmouth) Ltd 2006 - 2011

The return on capital employed (ROCE) that measures overall profitability of this company as a percentage of the capital employed was below 1% in 2006 before jumping to 3.42% in 2007 and thereafter it oscillated about the 5.62% level over the next four years. Given that this company was incorporated in 2005, the very modest ROCE figure of 0.72% registered in 2006 was not surprisingly small as new companies take time to become profitable. On the other hand, Tricomm Housing (Portsmouth) Ltd seemed to have had a better start by not posting losses (in terms of PBIT) in its initial years of operation. However, the ROCE level of 5.62% over the last four years is lower (albeit marginally) than the average effective interest rate paid by this company over the same time period (that stood at about 6.1%). This goes to show that the returns, produced by this company, that although positive, cannot be regarded as good since they are lower than the effective interest rates.

With the exception of the first two years, the profit margin at Tricomm Housing (Portsmouth) Ltd, averaged around 80.9% over the last four years. This meant that in this company, every £1 of revenue produced about 80.9p in profits (PBIT) over the last four years. This indicated that the company had been having a good grip on its costs whilst it has contracted revenues (with the MoD) at such a level that it had been enjoying very healthy profit margins. In the years 2006 and 2007, although the profit margin was not as high as 80.9%, nonetheless it was not negative. The asset effectiveness ratios over the last six years had never crossed the 0.07 mark and this means that the assets of the company were able to generate only £0.07 in sales for every £1 investment in capital. This is very low.

Given that Tricomm Housing (Portsmouth) Ltd does not hold stock, the current assets and the liquid assets are identical and thus the current ratios and the acid test ratios are identical. In 2006, the current ratio was at a very low level of just 0.09 i.e. if the current assets in 2006 were to be liquidated; they would be able to cover only 9% of the current liabilities in that year. This meant that in that year, this company was operating at the mercy of its creditors. If the latter had demanded full and immediate payments, then, that would have amounted to pulling the rug from beneath this company. In 2007, this ratio jumped to 1.79 times that although is a significant boost in the liquidity of this

company, was less than the ideal 2.0 times suggested by textbooks. After reaching its peak in 2008 when Tricomm Housing (Portsmouth) Ltd posted a current ratio of 2.16 times, the current ratios had since been in decline; in 2011, the current ratio had fallen to 1.04 times. This meant that the current assets (that comprised of cash only) were just enough to cover the current liabilities for that year.

The trade debtors' days declined over the first two years and had remained steady at around 31 days over the last four years. This reflected that in the first two years, it was taking Tricomm Housing (Portsmouth) Ltd, longer to collect the monies owed to it by the MoD. In the later years, it received amounts owed to it quite regularly. This anomaly of the first two years may have been agreed beforehand in the PFI contract. Comparing these ratios with the trade creditors' days, it was seen that in 2006, these stood at 2,045 days then dropped significantly to under 26 days in 2007. With the exception of 2007, in all the five years, the trade creditors' days had always been longer than the trade debtors' days. This meant that for Tricomm Housing (Portsmouth) Ltd, monies owed to it by the MoD always arrived faster than this company had to pay its suppliers and other current creditors therefore ensuring that the working capital cycle was not put under pressure.

Over the last six years, the gearing ratio had been very high; although over this time period, it had been on the decline. This is expected of a successful SPV – that as its profitability grows, so does its equity and thus the ratio between the two would have to come down. It should be noted that this company had been funded through share capital of £400,000 and debt capital of over £32 million – hence the very high gearing ratios. Having a high gearing ratio is not a measure of good or bad financial health; the more important question is whether a company can afford its funding mix. A quick glance at the interest cover ratios revealed that the year 2006 was the only time when the interest payments were greater than PBIT. Thus it is no surprise that Tricomm Housing (Portsmouth) Ltd registered a loss after interest and tax in that year. This meant that nothing was available to the shareholders of this company in that year. However, this company quickly got out of this awkward situation in the next year by registering interest cover ratios of 86.21% in 2007. In the next four years, this ratio remained

steady at around 77%. This revealed that although the funding mix of Tricomm Housing (Portsmouth) Ltd (comprising of high debt and comparatively very small equity), was unaffordable in 2006, this company had been able to service its loans comfortably even with the high debt to equity ratios in the last five years.

Overall, although ROCE was positive over the six years, compared with other SPVs, the ROCE was smaller; indicating that although Tricomm Housing (Portsmouth) Ltd had been profitable over this time period, compared with the capital (both debt and equity) injected into this company, the returns were small. The working capital ratios revealed that Tricomm Housing (Portsmouth) Ltd was producing good quality profits as the current ratio had been over 1.0 times in most years. However, the declining trend seen in these ratios was worrying. If this down trend were to continue in the future, Tricomm Housing (Portsmouth) Ltd may start facing short-term liquidity problems whereby it may not have enough of current assets to satisfy and short-term creditors' demands. On the other hand, by receiving monies owed to it by the MoD in roughly a month's time, the working capital cycle was not under strain as it had agreed to credit times with its creditors. The debt ratio had been very high over the years but the good news was that it had been on a declining trend; this is expected of a successful SPV engaged in the delivery of PFI contracts. The more important question is the affordability of the funding mix of Tricomm Housing (Portsmouth) Ltd. The interest cover had remained steady over the last four years at around 77%. This indicated that Tricomm Housing (Portsmouth) Ltd had not been facing problems servicing its loans (except in 2006 when this company had to post a loss since its interest bill was larger than PBIT in that year).

### 5.5.6 Sub-Case Study F: Project Devonport Support Services Armada

On the 6th of July 2004, the Falcon Support Services Ltd signed a PFI contract with the MoD to design, build, finance and operate accommodation facilities at the Fleet Accommodation Centre at Devonport, Plymouth.[29] The construction activities began from that date and were completed on 28th March 2008.[30] From October 2004, interim service operations on the existing buildings commenced and increased in stages. These reached full service operations for the whole site in April 2008. This 25 year PFI contract is scheduled to complete in March 2029.[31] The financial ratios, shown in Table

5.7, have been computed using the unqualified audited annual accounts of Falcon Support Services Ltd, the SPV at the heart of this PFI deal:

**Table 5. 7: Key financial ratios of Falcon Support Services Ltd**

| **Falcon Support Services Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 240.33 | 345.67 | -96.37 | 71.22 | -6.28 | -0.48 |
| PBIT/Sales % | 6.09 | 15.19 | -6.32 | 3.85 | -25.39 | -1.57 |
| Sales/Capital employed times | 39.44 | 22.75 | 15.26 | 18.48 | 0.25 | 0.31 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 1.07 | 1.15 | 1.15 | 2.24 | 3.68 | 10.43 |
| Liquid assets/current liabilities times | 1.07 | 1.15 | 1.15 | 2.24 | 3.68 | 10.43 |
| Trade debtors/sales x 365 days | 66.89 | 52.23 | 90.08 | 5.46 | 148.95 | 41.28 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 44.29 | 42.66 | 67.52 | 7.75 | 170.74 | 120.66 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | -10.04 | -10.03 | -8.55 | -9.98 | -7.37 | -12.68 |
| Interest cover % | 50.11 | 19.66 | -22.17 | 148.10 | -130.15 | -1,194.94 |

Source: Computed from the annual financial statements of Falcon Support Services Ltd 2006 -2011

In three out of the last six years, Falcon Support Services Ltd's profitability had been in the red. In the years, 2006 and 2007, the ROCE for this company had been negative because PBIT in these two years had been negative. This indicated that in the first two years (under review), this SPV had been incurring losses before interest payments and taxation were accounted for. These were indeed financially difficult years for Falcon Support Services Ltd. Although ROCE turned positive in 2008 to the tune of just over 71%, in the subsequent year, this ratio fell back into the negative territory. However, in the last two years, ROCE had been positive and well over the 200% mark. Thus based on these observations, it was difficult to categorise the ROCE ratios for Falcon Support Services Ltd as being either on an uptrend or downtrend. Data from future years is required before such a categorisation can be made. The profit margin ratios showed similar behaviour to the ROCE ratios – the profit margins for three out of the six years had been negative. The three years in which the profit margins had been negative were

precisely the same years in which the ROCE had been negative. This similarity is due to the fact that in the calculation of both these ratios, PBIT was the common numerator. As mentioned earlier, PBIT in those three years had been negative and hence profit margins in those years had been negative as well. Just like the ROCE, no defined uptrend or downtrend had been visible in the profit margin ratios over the last six years and thus data from future years is required to enable a trend, if any, to be seen. The last ratio under the profitability category is the asset utilisation ratio. This measures the extent to which the assets of the SPV have been used in the generation of sales. Over the last six years, the asset utilisation ratio had been in an uptrend – starting at 0.31 in 2006 and exponentially rising to 39.44 in 2011. Although sales over the years 2009 – 2011 had more or less been steady, the decreasing asset base had caused the asset utilisation ratio to increase significantly over these three years. This showed that this SPV had been increasingly effective at utilising its assets base to generate sales over the period under review.

In the absence of inventories held by Falcon Support Services Ltd, the current ratios and the acid test ratios are identical. Over the last six years, both these ratios had been in a clear downtrend. In 2006, the current (and the acid test) ratio stood at 10.43 against a standard value of 2.0 times. This meant that in that year, if all the current assets were liquidated, they would amount to being more than 10 times the amount of current liabilities. This put Falcon Support Services Ltd in very comfortable short-term liquidity position in that year. However, by 2009 and in subsequent years, the short-term liquidity position had deteriorated to such an extent that it hovered just above 1.0 times mark. This meant that in the years 2009 – 2011, if all the current assets were liquidated, these would just be enough to cover the current liabilities in those years. Against the standard value of 2.0 times for the current ratio of a company with a healthy short-term liquidity position, Falcon Support Services Ltd had not proved to be enjoying such a position in the last three years. If this downtrend in the current (and acid test) ratios continues in the future, this SPV could start to face cash flow problems.

Turning over to the working capital cycle, both trade debtors' and trade creditors' days had not been showing any clear uptrend or downtrend. One point that stuck out was that

in 2008 both these ratios dropped significantly to very low levels (compared with the previous year) before jumping exponentially in the subsequent year. This made the year 2008 in this way a bit out of the ordinary. However, the annual reports of Falcon Support Services Ltd for both these years did not show any explanation for this behaviour. In the years 2006 – 2008, trade debtors' days had been shorter than trade creditors' days. This meant that this SPV had been collecting money from the MoD for the provision of PFI services well in time before it had to make payments to its suppliers and other creditors. However, in the years 2009 – 2011, the reverse had been in play – the trade debtors' days had been longer than the trade creditors' days. This meant that in the last three years, Falcon Support Services Ltd had been taking up more time in collecting money from the MoD than the time it had been taking to pay its creditors. If this trend were to continue in the future, a cash flow crisis could unfold.

SPVs are by their nature highly leveraged vehicles. The borrowing ratios for Falcon Support Services Ltd over the period under review had been negative. This had been due to the fact that equity in the case of Falcon Support Services Ltd had been in the negative territory in all these years. This SPV had been incurring losses (after taking into account interest payments and taxation) since its inception. It was only in years 2010 and 2011, that Falcon Support Services Ltd had finally produced profits (after interest and tax). However, these profits were not large enough to fully dissolve the accumulated losses of the past and hence despite the last two years being profitable, equity had still been negative over the last six years. With equity negative, the debt ratio becomes impossible to interpret. It does, however, show that Falcon Support Services Ltd had been experiencing extreme financial difficulties.

The interest cover was remarkably poor in 2006 where it stood at -1,194%. This meant that the interest payments were about 12 times the size of the loss made in that year. From 2009 – 2011, interest cover had been on the rise; moving from -22.17% to 50.11%. Based on the zigzag nature of interest cover values over the period under review, data from the future years is required before this ratio can be judged to be in an uptrend or downtrend.

Overall then, although Falcon Support Services Ltd had swung to profitability in the last two years, no clear uptrend or downtrend can be seen in its profitability. Data from future years will have to be assessed before it can be concluded whether this SPV is in an uptrend or downtrend with respect to profitability. Asset utilisation had been on a clear uptrend and that was a plus point for this SPV. It means this company was increasingly utilising its asset base effectively to generate sales – it had not keeping its assets idle. The deteriorating working capital ratios especially from 2009 onwards could cause cash flow problems for this company if active measures are not taken to improve its short-term liquidity position. Most importantly, due the heavy losses incurred by Falcon Support Services Ltd since its inception, this company's equity had been negative all throughout. Negative equity means that it is in urgent need of cash injection from the shareholders of this company. If this does not happen, the long-term survival of this SPV is threatened.

### 5.5.7 Sub-Case Study G: Project RAF Lossiemouth Family Head Quarters

In June 1998, Covesea Ltd commenced the construction of 279 houses for the accommodation of military service families under a 20 years PFI contract with Defence Housing Estates (MoD).[32] The accommodation comprised of two, three and four bedroom houses. The total estimated capital value of this contract stood at £25 million.[33] The development and construction was carried out by the Morrison/Robertson Construction Joint Venture.[34] The total equity funding for this project of £100,000 was provided by Robertson and Infrastructure Investors whilst the debt finance was sourced from the Royal Bank of Scotland.[35] A number of financial ratios based on the unqualified audited annual accounts of Covesea Ltd were calculated and appear in the Table 5.8 below:

**Table 5. 8: Key financial ratios of Covesea Ltd**

| **Covesea Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 12.05 | 11.83 | 12.15 | 12.03 | 13.25 | 10.62 |
| PBIT/Sales % | 77.58 | 76.94 | 80.46 | 80.36 | 83.38 | 80.30 |
| Sales/Capital employed times | 0.16 | 0.15 | 0.15 | 0.15 | 0.16 | 0.13 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 2.08 | 2.13 | 2.17 | 2.09 | 2.42 | 1.82 |
| Liquid assets/current liabilities times | 2.08 | 2.13 | 2.17 | 2.09 | 2.42 | 1.82 |
| Trade debtors/sales x 365 days | 37.03 | 36.34 | 34.93 | 36.36 | 33.98 | 79.19 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 32.68 | 55.24 | 55.02 | 138.06 | 35.56 | 48.40 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 1.10 | 1.36 | 1.66 | 2.06 | 2.58 | 3.56 |
| Interest cover % | 37.53 | 41.94 | 39.45 | 39.25 | 39.33 | 53.36 |

Source: Computed from the annual financial statements of Covesea Ltd 2006 -2011

The ROCE that gives a measure of the overall profitability of this SPV had not only been positive over the last six years but had averaged around 12% annually. This showed that Covesea Ltd had maintained its profitability at a steady position. How it was able to do so is revealed by studying the next two profitability ratios. The overall trend in the profit margin over the same time period showed a steady downtrend. Nonetheless, the profit margin had been over 77% in these years. This revealed that this SPV was either able to charge a high price for its services rendered to the Defence Estates or that it had got its costs tightly under control. With the exception of 2006, the asset utilisation ratio had remained steady around the 0.16 times position. In 2006, this ratio stood at 0.13 times and thus it was only marginally different from this average of 0.16 times. Thus the ROCE of about 12% was wholly due to the very high profit margin Covesea Ltd was able to maintain. The quality of these profits will be revealed by studying the next set of ratios: the working capital ratios.

Due to the fact that this SPV does not hold stocks, the current ratios and the acid test ratios are identical. A quick glance at these ratios indicated that they had been in decline

from 2007 onwards. However, in all these years, these ratios had never dipped below 2.0 times except in 2006 when they stood at 1.82 times. This means that from 2007 onwards, if all the current assets were liquidated, this would be more than enough to cover the current liabilities (that mainly comprises of bank loans) of this company. In 2006, although the current and the acid test ratio worked out to be less than 1.82 times, nevertheless, it was still large enough to cover the current liabilities for that year. This suggests that Covesea Ltd had been enjoying a comfortable short-term liquidity position over the last six years. Additionally, the trade debtors' days ratio revealed that from 2007 onwards, this SPV had on average taken just over a month to collect its dues from the MoD. In 2006, it took this company almost 3 months to collect the payments it was due from the MoD. This shows that Covesea Ltd had been active at ensuring that the monies owed to it are collected quickly. On the other hand, the trade creditors' days ratio had been in an uptrend from 2006 to 2008 and had been in a downtrend ever since. More importantly, in the last five out of the six years, the trade creditors' days had always been longer than the trade debtors' days; sometimes by as little as one day and at other times by as large as 100 days. The fact that the trade creditors' days had been longer than the trade debtors' days meant that this SPV had been getting money quicker from the MoD than it had been paying its suppliers and banks. This illustrated that Covesea Ltd's working capital cycle had not been under strain. Thus overall, this company had been enjoying a comfortable liquidity position and a stress-free working capital cycle.

From 2006 onwards, Covesea Ltd had witnessed a steady decline in the borrowing ratio – from 3.56 times in 2006 to 1.10 times in 2011. This is steady decline was the result of decreased borrowings from the banks and increased levels of equity over the last few years. This company had been registering increased levels of annual profits and using those to unload its borrowings. When PFI contracts proceed correctly, this is what is expected of them – they increase their equity levels (as a result of increased profits) and reduce their liabilities as the contracts draw to their ends. Whether or not this SPV can afford the borrowing ratios it has witnessed over the last six years is revealed by a study of the interest cover ratios over the same period. It was seen that from 2007 onwards, the interest cover had been more or less steady at around 39%. This meant that about

39% of this company's annual profits had been used to pay third party financiers; leaving a bigger chunk for the shareholders. Thus both these gearing ratios revealed that this SPV had adopted a gearing level with which it was comfortable.

In summary, Covesea Ltd, over the period under study, had been profitable and its liquidity positions did not show any cause for concerns. Additionally, its funding mix had been improving. No financial concerns are raised in respect of this company.

### 5.5.8 Sub-Case Study H: Project Wattisham Married Quarters

On the 1st of May 2001, the MoD signed a 28 years long PFI contract with Roselead Ltd, the SPV, for the provision of married quarters accommodation for 250 service families. This family accommodation is situated at Wattisham Airfield in Suffolk, Essex. Key financial ratios have been calculated using the unqualified audited financial statements of Roselead Ltd for the past six years. These are presented below in Table 5.9:

**Table 5. 9: Key financial ratios of Roselead Ltd**

| **Roselead Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 5.58 | 6.68 | 3.30 | 4.60 | 3.57 | 4.65 |
| PBIT/Sales % | 72.80 | 77.00 | 46.18 | 72.94 | 79.67 | 82.52 |
| Sales/Capital employed times | 0.08 | 0.09 | 0.07 | 0.06 | 0.04 | 0.06 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 5.34 | 3.96 | 2.96 | 2.71 | 3.61 | 5.43 |
| Liquid assets/current liabilities times | 5.34 | 3.96 | 2.96 | 2.71 | 3.61 | 5.43 |
| Trade debtors/sales x 365 days | 37.07 | 35.72 | 76.68 | 37.71 | 36.39 | 35.68 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 16.41 | 22.91 | 0.00 | 3.10 | 15.09 | 33.55 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 17.40 | 20.76 | 32.73 | 18.16 | 21.11 | 26.47 |
| Interest cover % | 84.13 | 78.01 | 157.05 | 89.18 | 87.18 | 86.67 |

Source: Computed from the annual financial statements of Roselead Ltd 2006 -2011

The first profitability ratio, ROCE, measures the overall profitability of Roselead Ltd had been oscillating between 3.30% and 6.68% over the last six years. This meant that although the rate of return on capital employed by this SPV had been in single digit numbers, in none of these years had it ever recorded an overall loss. The movements in this ratio failed to show any defined uptrend or downtrend. The ROCE is defined by the product of the next two profitability ratios. The profit margin, that shows the average profit earned by Roselead Ltd on every £1 of sale, had mainly fluctuated slightly between 72.8% and 82.5% except for the year 2009 when it dipped significantly to 46.2%. An examination of the financial statements for that year showed that an exceptional charge of £0.95 million for provision against debt from the ultimate parent company of Roselead Ltd was made. This caused the PBIT for 2009 to be out of line with the ratios for the other years. The next profitability ratio that measures the effectiveness of asset use to generate sales had remained insignificantly low. Thus overall, Roselead Ltd had been profitable mainly because of the high PBIT it was able to achieve.

Since Roselead Ltd does not hold stocks, the current ratios and the acid test ratios are identical. Over the last six years, both these ratios had swung from 5.43 (in 2006) to 5.34 (in 2011) whilst registering a bottom of 2.71 in 2008. No apparent reasons could be identified for this u-curve type behaviour in these two sets of ratios. This showed that in all these years, the current assets of this company were at least two times the size of its current liabilities. Thus in the short-term, this SPV had been enjoying a healthy liquidity position. Except for the year 2009, the trade debtors' days had been maintained between 35 and 37 days. In 2009, the trade debtors' days dramatically increased to about 77 days. No apparent explanation for this unusual behaviour could be traced from the financial statements of Roselead Ltd. It may have been due to some lag in receiving monies from the MoD. A quick look at the trade creditors' days showed that they stood at above 33 days in 2006 and gradually descended to zero in 2009 before rising to about 23 days in 2010 and about 16 days in 2011. In 2009, this company had no amounts outstanding with respect to its trade creditors. This explained why in that year, trade creditors' days stood at zero. An important point to note is that over the last six years (with the exception of 2009), this SPV has been taking longer to receive money from

the MoD than it is required to make payments to its trade creditors. Normally, if such a situation existed, there would be enormous amounts of pressure on the cash flow of a business. However, the amounts paid to the trade creditors are relatively very small to the amounts received from the MoD and thus no cash flow pressure can be witnessed in the case of Roselead Ltd.

The first gearing ratio, the debt ratio, did not show any defined trend. Nonetheless, it did reveal that it had been oscillation between 17.4 times and 32.73 times over the time period in question. This meant that at times, money sourced from banks had been about 33 times the size of shareholder investment; at other times money from third parties had been about 17 times greater than equity funding. By the very nature of PFIs, high levels of leverage are expected. What is more important is whether Roselead Ltd was able to afford the debt and equity mix of its funding. This was revealed by the second gearing ratio – the interest cover. Between 2006 and 2011, the proportion of profits (PBIT to be precise) that were used up in paying interest had ranged from 78% (in 2010) to 157% (in 2009). Although no defined trend could be traced in the interest cover over these years, in 2009, the interest payments were about 1.5 times the size of the profits made in that year. Thus it does not come as a surprise that in 2009, Roselead Ltd made a loss after interest and tax. However, in the other years, the interest cover was close to 100% and is a cause for concern should interest rates on the bank borrowings were to rise.

Overall, Roselead Ltd had been enjoying profitable years mainly because it was in a position to earn high levels of profit margins. This company is comfortable with respect to short-term liquidity. No signs of stress on its cash flows were visible. The only possible red flag is in connection with its interest cover that had been close to 100% in most of the years and crossed this mark in 2009 that resulted in a loss making year.

## 5.6 Analysis of Defence Accommodation PFIs

The following computation, in Table 5.10, shows the averages of the key financial ratios for the above eight Defence PFIs relating to the category of accommodation:

**Table 5. 10: Average key financial ratios of the eight Defence Accommodation PFIs**

| AVERAGE ACCOMMODATION | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 63.91 | 80.94 | 130.19 | 32.88 | 3.00 | 20.61 |
| PBIT/Sales % | 47.22 | 48.50 | 40.86 | 45.49 | 40.11 | 42.21 |
| Sales/Capital employed times | 6.58 | 5.32 | 7.94 | 4.42 | -2.56 | 1.93 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 2.05 | 1.97 | 2.80 | 2.15 | 2.55 | 3.45 |
| Liquid assets/current liabilities times | 2.05 | 1.97 | 2.80 | 2.15 | 2.55 | 3.45 |
| Trade debtors/sales x 365 days | 34.37 | 37.39 | 43.47 | 29.38 | 47.80 | 44.13 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 38.66 | 57.71 | 61.82 | 127.90 | 68.15 | 308.66 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 6.38 | 8.92 | 37.38 | -4.71 | -3.30 | -75.89 |
| Interest cover % | 26.41 | 27.10 | 82.43 | 63.85 | 56.01 | -32.07 |

Source: Author

With regards the profitability of accommodation PFIs, it was clear that ROCE had been positive throughout. However, it was noted that in 2007, the ROCE dropped to a very low figure of 3% and this was due to the poor performance recorded by RMPA Services Ltd (engaged in the delivery of the Colchester PFI) and Falcon Support Services Ltd (engaged in the delivery of Devonport Support Services ARMADA PFI). These two SPVs had in subsequent years improved their ROCE performance. The average profit margin over the last six years had remained more or less steady; it ranged between 40 and 49%. The negative average recorded for asset utilisation ratio in 2007 was due to the dismal performance by RMPA Services Ltd. Other than that, the asset utilisation ratio had remained positive and in the last three years, it had oscillated around the 6.6 times level.

Due to the absence of stock held, the current and the liquid asset ratios are identical. Both these ratios had been at levels above their textbook definitions of 2.0 times for current ratio and 1.0 time for liquid ratio. This showed that these SPVs had been

enjoying comfortable short-term liquidity positions. Additionally, it had taken these SPVs to receive amounts owed to them by the MoD anywhere between 30 and 60 days. Trade creditors' days had been on the decline from 2006 onwards. Over the last six years, trade creditors' days had always been longer than trade debtors' days thus implying the cash flow cycles of these SPVs had not been under stress.

The debt to equity ratios had been on a downwards move since 2009. Before this time, negative values were recorded for these ratios that have no meaning. As expected, with downwards moving debt to equity ratios, interest cover had been on a downward trend. This is typical of financially successful SPVs engaged in the delivery of PFIs because as profits rise, loans are paid off and therefore the debt burden drops and as a result interest payments as a percentage of PBIT also drops.

The SPV that is of concern with regards to its financial position is Falcon Support Services Ltd (engaged in the delivery of Devonport Support Services ARMADA) since in 2007 and 2009 it recorded a PBIT loss of about £1 million. Although in the years 2010 and 2011, this company had produced positive PBIT figures, it remains to be seen whether these figures continue to be in the black in the future.

## 5.7 Defence PFI Case Study 2: Equipment

In this category of PFIs, the private sector through the SPV is engaged in designing, building, financing and operation of defence equipment. The MoD specifies the outputs required from the defence equipment and then it is up to the SPV to pool its resources to come up with pieces of defence equipment that meet the criteria set by the MoD. In the following sub-sections, financial ratio analysis of all the SPVs involved in the delivery of PFIs in this category is carried out.

### 5.7.1 Sub-Case Study A: Project C Vehicles

In June 2005, ALC (FMC) Ltd, the SPV, entered into a 16 year PFI contract with the MoD that involves providing worldwide capability to use a wide range of construction and field mechanical handling equipment operated largely by the Royal Engineers and the Royal Logistics Corps.[36] The existing legacy fleet of some 4,000 assets had been

purchased from the MoD and will be replaced with a significantly smaller fleet of commercial specification.[37] This PFI project also provides a broad range of support services to ensure the optimal use of the fleet and to ensure that the service personnel continue to be able to maintain equipment's on operations.[38] Based on the unqualified audited financial statements of ALC (FMC) Ltd, the following ratios, shown in Table 5.11, were calculated:

**Table 5. 11: Key financial ratios of ALC (FMC) Ltd**

| **ALC (FMC) Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 241.31 | 257.30 | -635.67 | 143.77 | 409.23 | 237.33 |
| PBIT/Sales % | 24.21 | 28.96 | 25.54 | 16.79 | 33.35 | 30.89 |
| Sales/Capital employed times | 9.97 | 8.88 | -24.89 | 8.57 | 12.27 | 7.68 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 1.54 | 1.91 | 0.86 | 1.24 | 1.13 | 1.28 |
| Liquid assets/current liabilities times | 1.54 | 1.91 | 0.86 | 1.24 | 1.13 | 1.28 |
| Trade debtors/sales x 365 days | 13.31 | 16.10 | 2.85 | 15.21 | 0.00 | 0.76 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 11.74 | 12.16 | 14.15 | 18.53 | 27.34 | 40.23 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest cover % | -1.05 | -1.17 | -4.58 | -18.99 | -9.66 | -3.11 |

Source: Computed from the annual financial statements of ALC (FMC) Ltd 2006 -2011

Over the last six years, this company had been profitable all throughout. The negative ROCE ratio in 2009 was the result of the capital employed being negative in that year. Otherwise, PBIT as well as net profit (after deducting interest and taxation) in all these years had been positive. Movements in both the PBIT and net profits over the years have been zigzagging and thus no observable trend could be traced in them. The profit margin had been oscillating around the 25-26% mark and was not in a clear upwards or downwards trend. This meant that this SPV had been able to set its prices and control its costs over the period of study. The asset utilisation ratios (with the exception of the

extreme value in 2009) also did not show any defined trend; it had been swinging up and down over the years.

In the absence of stocks, ALC (FMC) Ltd's current and acid test ratios are identical. From 2006 to 2009, they had been in a downward trend before moving back upwards in the years 2010 and 2011. In 2009, the current ratio stood at 0.86 times. This meant that the current assets (that comprised of only cash) were able to cover 86% of the current liabilities. This meant that if the suppliers of this SPV were to demand full and immediate payments, this company would find problems doing that. Thus in 2009, this SPV was operating at the mercy of its suppliers. There is nothing wrong with operating at a current ratio of less than 1.0 times if this company enjoys good relationships with its suppliers. By good, it is meant that all the suppliers will not demand full and immediate payments from this company. In all the other years, the current ratios had been greater than 1.0 times and since the current assets comprised only of cash, this meant that the short-term liquidity position of this company had been comfortably placed. The trade debtors' days had been recording an upward trend; from 0.76 days in 2006 to 13.31 days in 2011. On the other hand, the trade creditors' days was witnessing a downwards trend; from 40.23 days in 2006 to 11.74 days in 2011. This indicated that it was taking this company longer to recover monies that it is owed by its customer whilst, it was paying its suppliers much quicker. Indeed over the last two years, the trade debtors' and the trade creditors' days were very close to each other. Although, at present they do not present any stress on the working capital cycle, in future, if these trends continue, ALC (FMC) Ltd could find itself in a stressed working capital cycle where it has to make payments to its suppliers much faster than recovering monies from its customer.

The borrowing ratios in all these years were zero because the company had not been funded by third party financiers. This is at odds with usual PFI contracts where most of the funding comes from such financiers. The interest cover ratios show the proportion of interest received to the levels of PBIT earned. Thus from a gearing point of view, this company was not geared.

Overall, with profitability being positive (although no defined trend in profitable could be traced) and good short-term liquidity position and no gearing at all, this company was in a very good financial condition. The only point that could be of concern is the decreasing trade creditors' days and rising trade debtors' days that if it were to continue to stress the working capital cycle of ALC (FMC) Ltd.

### 5.7.2 Sub-Case Study B: Project Field Electrical Power Supply

Genistics Ltd was incorporated as the SPV in the PFI contract with the MoD that involved the procurement of the design and development of the product and preparation for the supply, maintenance, management and finance of a fleet of trailer-mounted field mobile generator sets for the MoD. This contract was signed in June 2002 and it will run till June 2022. Based on the unqualified audited financial statements of Genistics Ltd, the following key financial ratios, shown in Table 5.12, were calculated.

**Table 5. 12: Key financial ratios of Genistics Ltd**

| **Genistics Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 43.09 | 51.16 | 4.68 | 8.26 | 4.62 | 5.43 |
| PBIT/Sales % | 29.17 | 34.29 | 22.37 | 46.73 | 32.49 | 40.35 |
| Sales/Capital employed times | 1.48 | 1.49 | 0.21 | 0.18 | 0.14 | 0.13 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 0.16 | 0.18 | 1.09 | 1.31 | 1.12 | 1.24 |
| Liquid assets/current liabilities times | 0.16 | 0.18 | 1.09 | 1.31 | 1.12 | 1.24 |
| Trade debtors/sales x 365 days | 97.59 | 42.93 | 40.07 | 89.51 | 118.94 | 83.80 |
| Stocks/cost of sales x 365 days | | | | | | |
| Trade creditors/purchases x 365 days | | | | | | |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | -11.43 | -19.74 | -30.29 | -68.53 | -50.73 | 519.87 |
| Interest cover % | 190.36 | 139.82 | 178.29 | 91.71 | 161.00 | 144.59 |

Source: Computed from the annual financial statements of Genistics Ltd 2006 -2011

The ROCE ratios had been positive throughout and it can be seen that they were in an upward trend. In the first few years up until 2009, the ROCE had been modest; ranging between 4.62% and 8.26%. However, due to the large short-term bank loans and overdrafts in 2010 and 2011, causing capital employed to drop dramatically, led to sudden rise in ROCE in the last two years. In money terms, PBIT had been falling since 2008. In the years from 2006 to 2009, the ROCE achieved was less than the average interest rate paid in these years. This meant that the cost of sourcing of every £1 of investment into this company was not offset by the returns generated. It was therefore not surprising that in all these years, this company recorded a net loss (after deducting interest and taxation payments) in these years (except in 2008 when it made a profit of under £0.5 million). The profit margin had fluctuated over the last six years with a high of 46.73% in 2008 and a low of 22.37% in 2009. No defined trend in the profit margin could be observed. Nonetheless, achieving a double digit profit margin indicates that this SPV has managed its prices and costs very well. A clear uptrend was seen in the asset utilisation ratios that have moved from 0.13 in 2006 to 1.48 in 2011.

Like other SPVs, Genistics Ltd does not hold stocks and therefore, its current and acid test ratios are identical. Here again, a somewhat downtrend was seen in the current ratios. In the years 2006 to 2009, the current ratios were above 1.0 times which although below the ideal standard of 2.0 times, nonetheless, since the current assets comprised of cash only, put this company in a comfortable short-term liquidity position in these years. However, in the last two years, the current ratio had dropped significantly down to 0.18 and 0.16 times respectively. This meant that in these two years, only 16-18% of the current liabilities of this company could be covered by the current assets. Unless, this SPV enjoys a good relationship with its suppliers and bank (since it had taken out short-term loans and overdrafts), the short-term liquidity position could cause cash flow problems for this company i.e. not having enough cash to satisfy its short-term creditors. The trade debtors' days from 2007 onwards had been in a downtrend until 2011 when they edged up. However, with no trade creditors' days available, because there were no cost of sales recorded, it is difficult to tell whether or not the working capital cycle is under stress.

The gearing ratios revealed that with the exception of 2006 when the borrowing ratio was positive, in all other years, the borrowing ratios had been negative. This had been due to the fact that the company had been registering net losses in the last six years (with the exception of a net profit in 2008). The accumulated net losses that run into millions of pounds cannot be offset by the meagre paid share capital of £1,000 only. What is worrying is that equity was progressively becoming negative over the years as the net losses rose year on year. If this trend continues, the company may begin to find servicing its loans difficult. Additionally, if the net losses continue to grow, the company may have to struggle very hard to pay back its loans to the third party financiers. The interest cover showed that with the exception of 2008 when a profit was made, the interest bill in all the other years was greater than the PBIT in those years resulting in net losses. This put the company under severe stress as it was unable to service its debts.

In summary, although the profitability of this company was improving, short-term liquidity position was getting worse. This meant that the quality of the profits being made was getting poor. Additionally, the gearing ratios painted a very bleak picture for this company. They showed that the company's negative equity was rising and its interest bill had been greater than PBIT in most years. If this trend continues, the company may face problems servicing its debts as well as paying back those loans. With such a terrible financial condition, this SPV could go bankrupt affecting the PFI services being provided to the MoD.

### 5.7.3 Sub-Case Study C: Project Heavy Equipment Transporter

In December 2001, Fasttrax Ltd, the SPV, signed the £85 million deal with the MoD.[39] This PFI contract is to run for 20 years and involves the provision of 92 tractors, 89 trailers and three recovery systems as well as sponsored reserves (that includes drivers, maintenance technicians and logisticians) to enable the MoD to transfer battle tanks from one place to another.[40] Using the unqualified audited financial statements of Fasttrax Ltd for the last six years, the following key financial ratios, shown in Table 5.13, were calculated:

**Table 5. 13: Key financial ratios of Fasttrax Ltd**

| **Fasttrax Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 11.22 | 9.82 | 8.91 | 8.51 | 7.01 | 4.91 |
| PBIT/Sales % | 33.39 | 28.92 | 31.70 | 33.07 | 28.29 | 25.66 |
| Sales/Capital employed times | 0.34 | 0.34 | 0.28 | 0.26 | 0.25 | 0.19 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 1.84 | 1.81 | 1.73 | 1.71 | 1.40 | 1.60 |
| Liquid assets/current liabilities times | 1.84 | 1.81 | 1.73 | 1.71 | 1.40 | 1.60 |
| Trade debtors/sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 8.11 | 3.62 | 21.24 | 18.55 | 29.20 | 26.70 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | -35.00 | -33.73 | -25.14 | -21.51 | -23.44 | -31.77 |
| Interest cover % | 94.26 | 78.43 | 82.11 | 105.03 | 122.28 | 149.27 |

Source: Computed from the annual financial statements of Fasttrax Ltd 2006 -2011

With regards to profitability, Fasttrax Ltd had been posting ROCE ratios that can be seen to be in defined upward trend; rising from 4.91% in 2006 to 9.82% in 2010. In the years 2006 - 2008, ROCE rose from 4.91% to 8.51% whilst the average interest rate paid in these years on its loans stood at around 6.5%. This meant that at least in 2006, the cost of funding through third party financiers was greater than the return every £1 made. It was therefore not surprising that in these three years, the company recorded net losses after taking into account interest and tax payments; although PBIT in all the six years was positive and steadily rising. The profit margin had been stable at about 30% over the years with slight fluctuations up and down. This stable profit margin could be attributed to the company's good management of its prices and costs controls. The asset utilisation ratio did not show much change over the years. This suggests that the company had not made significant improvements to how effectively it used its assets to produce sales.

Fasttrax Ltd does not hold stocks and therefore its current and acid test ratios are identical. From 2007 onwards, the current ratio had been in an uptrend; rising from 1.40 times in 2007 to 1.81 times in 2010. Although this ratio had been less than the ideal standard of 2.0 times, given that the current assets comprised of only the cash held by this company, this SPV was ever ready to settle its current liabilities without cash flow problems. In 2007, when it recorded its worst current ratio, its cash (that is the most liquid asset) was 1.40 times the current liabilities. With such a comfortable short-term liquidity position, it made financial sense to invest the cash in short-term interest bearing accounts. This is exactly what this company had done. As a result, Fasttrax had been earning interest on such account running into hundreds of thousands of pounds. Having too much cash and a very comfortable short-term liquidity position is not ideal as it increases the opportunity cost of the idle cash.

Interestingly, this company did not have trade debtors; implying that it received the cash for its services from the MoD on time that is every business' dream. On the other hand, the trade creditors' days had been decreasing from 26.70 days in 2006 to 3.62 days in 2010. This showed that although this SPV had increased its pace of making payments to short-term creditors, there was very little strain on the working capital cycle as there were no trade debtors and its cash balance was rising steadily over the years.

The borrowing ratios were all negative and many times greater than equity. This had been the case because Fasttrax Ltd had been recording net losses (after taking into account interest and tax payments) year on year. The paid-up share capital of £1 million was not sufficient to absorb the net losses incurred year on year; leading to negative equity in all these years. This is a worrying situation because if net losses continue to be incurred in the future, equity will remain in the red and the company may find it difficult to pay back its loans. The interest cover showed that with the exception of the last two years, the interest bill had been greater that PBIT and this had led to net losses year on year. If these ratios were for the first few early years, it would not be too much of a concern since new businesses take time before producing profits. But since this company had been in operation for about 10 years, any deterioration in the interest cover is worrisome. Due to the net profits recorded in the last two years, the interest

cover had come down to about 79%, but it is important that in the future, interest cover remains capped at this level so that a generous return for the shareholders can be realised.

In summary, the profitability of this company was rising, though it recorded net losses in the first three years before producing net profits from 2009 onwards. The healthy and stable profit margin over these years helped to maintain its profitability. The company enjoyed excellent short-term liquidity given also the fact that its current assets comprised of cash only. Thus it was in a very comfortable position to satisfy its current liabilities as and when they arise. The gearing ratios were not encouraging. They continued to show that equity was negative that if it continues in that direction in the future, this SPV may run into trouble paying back its loans. Although the interest cover had come down to affordable levels, it needs to be seen if the downward move beginning in 2009 continues in the future.

### 5.7.4 Sub-Case Study D: Project Naval Communications

Alert Communications Ltd signed a PFI contract with the MoD to design, construct and finance telecommunications facilities, the Received Signal Service Communications Link for the MoD and to provide facilities management in this regard.[41] This contract came to a financial close in June 2000 and is expected to run for 30 years. Based on the unqualified audited financial statements of Alert Communications Ltd for the last six years, key financial ratios covering profitability, liquidity and working capital as well as gearing ratios were computed. These are shown below in Table 5.14:

**Table 5. 14: Key financial ratios of Alert Communications Ltd**

| **Alert Communications Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 12.95 | 16.11 | 6.53 | 5.83 | 0.36 | 5.40 |
| PBIT/Sales % | 48.73 | 58.10 | 36.80 | 38.08 | 3.24 | 37.24 |
| Sales/Capital employed times | 0.27 | 0.28 | 0.18 | 0.15 | 0.11 | 0.14 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 0.25 | 0.14 | 0.19 | 0.32 | 0.54 | 2.30 |
| Liquid assets/current liabilities times | 0.25 | 0.14 | 0.19 | 0.32 | 0.54 | 2.30 |
| Trade debtors/sales x 365 days | 0.00 | 0.00 | 0.48 | 0.11 | 0.00 | 0.00 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 9.33 | 72.16 | 103.50 | 0.35 | 0.00 | 1.24 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | -7.35 | -7.21 | -5.92 | -6.44 | -7.49 | -13.70 |
| Interest cover % | 74.18 | 63.13 | 151.95 | 153.21 | 2,760.67 | 163.18 |

Source: Computed from the annual financial statements of Alert Communications Ltd 2006 -2011

When it comes to profitability, the ROCE, that shows the return generated overall for every £1 invested in this company, had been positive and had been rising (not steadily) over the years; although in 2007, it dipped down to 0.36%. The administrative expenses were abnormally high in 2007 that caused the ROCE to be 0.36% in that year. The ROCE generated in the years 2006 to 2009 stood at less than the average interest rate paid on the loans that had been used to fund this company. This meant that for every £1 (sourced from third party financiers) invested in this company costs about 6-7p whilst the return had been less than 6.53p in these years. It was therefore unsurprising that, due to large interest bills, Alert Communications Ltd recorded net losses in the years 2006 – 2009. The profit margin had also been on an uptrend after excluding the extreme value recorded in 2007. In the last two years, the profit margin had increased significantly from 37-38% to over 48%. It seems to suggest that this SPV had got better control of its prices and costs in these last two years. The asset utilisation ratio revealed that no significant changes have been registered by this company in terms of how effectively it was utilising its assets to generate sales.

In the absence of any stocks, the current and the acid test ratios for this SPV are identical. Nevertheless, the current ratios showed a downward trend is in progress; dropping from 2.30 times in 2006 to 0.25 times in 2011. From 2007 onwards, the current ratio had never been higher than 0.54 times. This meant that over the last five years, the current assets had never been enough to cover the current liabilities of this company. However, the current assets of this company comprised of only cash and therefore whilst it is good that the current assets are in the most liquid form, they are not enough to settle this company's short-term debts that comprised mainly of short-term bank loans. Operating at current ratios of less than 1.0 times is acceptable (even if the entire current assets is made up of cash), but problems may arise if Alert Communication Ltd has a rocky relationship with its short-term creditors especially the banks from which it had secured short-term loans. If this downward trend were to continue, it could create cash flow problems for the company if some or all of the suppliers and banks were to demand full and immediate payments. Thus this company's short-term liquidity position was far from being prudent.

Trade debtors' days had been very low and close to zero over the last six years. This meant that Alert Communications Ltd had been receiving cash from its customers on time. This is good news as it allows the company to better manage its cash flows. On the other hand, trade creditors' days had been fluctuating without showing any defined trend. Nevertheless, given the wide gaps between the trade debtors' days and the trade creditors' days, the working capital cycle was not being put under stress.

Borrowing ratios were all negative because equity had been negative throughout this period. The accumulated net losses (after deducting interest and tax payments) at the start of 2006 and the net losses recorded in the years 2006 – 2009 were responsible for the negative equity over the last six years. The negative equity over the years grew between 2006 and 2009 before slightly dipping in the last two years. Negative equity meant that the company as it stood did not have enough resources to payback its loans. This will be of concern to the banks and other third party financiers who have advanced loans to this company. If this downward trend in negative equity is not stopped, this company may never be able to pay back its loans. It needs to make large amounts of net

profits so as to bring the negative equity into positive territory. As it is expected of SPVs, the borrowings of this company are many times the value of its equity. But how had the company been affording this unusual funding mix? The interest cover showed that up until 2009, the interest bill each year had been larger than the PBIT in that year. The interest cover for 2007 represented an extreme value, caused by the unexpectedly higher administrative costs incurred in that year. In the last two years, interest cover was a fraction of the PBIT recorded in those years. It is too early to tell whether the downward movement in interest cover from 2010 onwards represents the beginning of a downtrend in interest cover or just adjustments before the upward trend resumes.

In a nutshell, the overall profitability of this company was rising, (although net losses were being posted in the first four years). If this upward trend continues, this is good news for the company as it has been hammered severely by losses in the earlier years. The short-term liquidity position of Alert Communications Ltd was getting worse and given the fact that majority of its current liabilities were in the form of bank loans, any rocky relationship with them could create choke this company into bankruptcy. The negative equity needs to move into the positive region so that the company can be in a better situation to pay back its loans. If the downward movement in the interest cover over the last two years matures into a downward trend, this will give some breathing space for this company to move its equity back into the black.

### 5.7.5 Sub-Case Study E: Project Skynet 5

Skynet 5 is a £3.6 billion project that provides satellite communication services to the MoD[42]. Signed in October 2003 and running until at least 2020, it includes the design, build, and operation of three new satellites.[43] Paradigm Secure Communications Ltd is the SPV at the heart of this PFI contract. It is responsible for delivering the project, controlling the satellites, managing the network and implementing all upgrades throughout its life. The financial statements (for which unqualified audit reports have been published) for the past six years have been used to calculate key financial ratios. These are shown in Table 5.15 below:

**Table 5.15: Key financial ratios of Paradigm Secure Communications Ltd**

| **Paradigm Secure Communications Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 9.52 | 4.94 | 4.56 | 6.44 | 5.92 | 2.95 |
| PBIT/Sales % | 29.54 | 19.34 | 17.56 | 29.34 | 35.19 | 24.68 |
| Sales/Capital employed times | 0.32 | 0.26 | 0.26 | 0.22 | 0.17 | 0.12 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 0.24 | 0.52 | 0.77 | 0.33 | 0.91 | 0.21 |
| Liquid assets/current liabilities times | 0.24 | 0.52 | 0.77 | 0.33 | 0.91 | 0.21 |
| Trade debtors/sales x 365 days | 44.92 | 77.60 | 43.18 | 46.93 | 59.48 | 80.70 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 0.04 | 0.01 | 0.02 | 0.01 | 0.93 | 1.02 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 9.37 | -20.87 | -128.63 | 41.80 | -18.61 | -20.85 |
| Interest cover % | 54.30 | 116.42 | 123.96 | 58.36 | 48.34 | 69.34 |

Source: Computed from the annual financial statements of Paradigm Secure Communications Ltd 2006 - 2011

The profitability ratio, the ROCE, that reveals that the overall profitability of Paradigm Secure Communications Ltd, moved upwards between 2006 and 2008 and then dipped slightly thereafter. In 2006, when ROCE stood at 2.95%, this company paid an average interest rate of 2.2% on the loans it had taken out. This meant that for every £1 sourced from third party financiers and invested in this company, the latter generated 2.95p whilst the cost of these funds stood at 2.2p. However, from the year 2007 onwards, the ROCE was significantly below the average rate of interest paid by this SPV on loans during these years. For instance, in 2009, the ROCE achieved was 4.56% whilst the average interest paid stood at 22.5%. This huge gap between the cost and return caused Paradigm Secure Communications Ltd to register a net loss (after deducting interest and taxation payments). This goes to tell that the funding investment in this company is too costly when compared with the returns generated. If this significant gap between costs and returns continues into the future, this company will keep posting net losses making it ever so difficult for this SPV to service and pay back its loans. The profit margin had

been declining since 2007; from 35.19% to 19.34% in 2011. It seems to suggest that this company was finding it difficult to control its costs relative to the income it was receiving. The asset utilisation ratio had remained insignificantly small over the last five years; although rising steadily with time.

Paradigm Secure Communications Ltd does not hold items of stock and therefore its current ratios and its acid test ratios are identical. An examination of these ratios did not reveal any defined trend. These ratios had been fluctuating between highs of 0.91 and lows of 0.21. It had never crossed 2.0 or the 1.0 times that are considered ideal levels. A closer look at the accounts of Paradigm Secure Communications Ltd revealed that the current assets comprised of only cash that is the most liquid asset. This meant that in 2006, the cash available at Paradigm Secure Communications Ltd was just enough to cover 21% of its current liabilities. Businesses operating at this low level of current ratio need to maintain good relationships with their short-term creditors including their suppliers and banks because if all these parties were to demand their full and immediate payments, it would be impossible to satisfy them. A company could go bankrupt and cease trading if other sources of funds are not retrieved immediately. However, in the case of Paradigm Secure Communications Ltd, the majority of short-term creditors were accounted for by amounts owed to group undertakings. This meant that there was less pressure on Paradigm Secure Communications Ltd to make full payments immediately since the creditors were no outsiders but other members of the same group.

The trade debtors' days moved downward from 2006 to 2009 before rising in 2010. They ranged from 80.70 days in 2006 to 43.18 days in 2009 before rising to 77.60 days in 2010. This revealed that Paradigm Secure Communications Ltd was not able to recover monies that it was owed by its customer immediately. It needs to be seen whether in the future, the trade debtors' days continue the downtrend established between 2006 and 2009 or do they adopt an uptrend starting with the rise in 2010. In comparison, the trade creditors' days had remained at insignificantly small level of under a day over the last five years. This meant that Paradigm Secure Communications Ltd was slow at recovering monies from its customer but very quick at making

payments to its trade creditors. This could put a strain on the working capital cycle if the cash balances dwindle.

With the exception of 2008, the borrowing ratio, in all other years, had been negative. This had occurred because equity had been negative right from the start. The negative equity was caused by the fact that Paradigm Secure Communications Ltd had been registering positive PBIT but net losses in most of its years of operations. The negative borrowing ratio is a cause for concern since it means that the company does not have enough means to pay back the loans. If equity continues to remain negative, it means the company continues to remain insolvent. The banks that had advanced loans to Paradigm Secure Communications Ltd will be concerned of the recovery that they can make on the loans. Moreover, if the company needed more funds to continue its operations, which it will unless it starts posting net profits, and the banks refused because of the continuing negative equity, this could lead to bankruptcy. The interest cover was not looking healthy either. In the last two years, interest cover was in excess of 100% meaning that the interest bill was greater than the PBIT generated by this company. Thus it is no wonder that this company registered net losses in the last two years. Consequently, this meant that this SPV cannot service its loans – further signs that the operations of Paradigm Secure Communications Ltd could stall in the future if the financial situation does not improve.

In summary, whilst the ROCE was positive in the last five years, no defined trend in its movement could be seen. Moreover, in the last two years, Paradigm Secure Communications Ltd had been posting net losses because its interest bill was greater than the PBIT generated. The short-term liquidity ratios were well below the ideal level but since most of the current liabilities were amounts owed to other group undertakings, these low levels of current and acid test ratios are not a cause for concern. The negative equity leading to negative borrowing ratio is worrisome because it means that this company is insolvent. The huge interest cover in the last two years is indicating that Paradigm Secure Communications Ltd cannot service its loans. If a major turnaround does not take place in the near future, the company may run out of money to enable it to carry out its activities.

## 5.8 Analysis of Defence Equipment PFIs

Based on the average of the key financial ratios for the five SPVs engaged in the delivery of Defence PFIs relating to the category of Defence Equipment, the following (shown in Table 5.16) was computed:

**Table 5. 16: Average key financial ratios of the five Defence Equipment PFIs**

| AVERAGE EQUIPMENT | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 63.62 | 67.87 | -122.20 | 34.56 | 85.43 | 51.20 |
| PBIT/Sales % | 33.01 | 33.92 | 26.79 | 32.80 | 26.51 | 31.76 |
| Sales/Capital employed times | 2.47 | 2.25 | -4.79 | 1.87 | 2.59 | 1.65 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 0.81 | 0.91 | 0.93 | 0.98 | 1.02 | 1.33 |
| Liquid assets/current liabilities times | 0.81 | 0.91 | 0.93 | 0.98 | 1.02 | 1.33 |
| Trade debtors/sales x 365 days | 31.16 | 27.33 | 17.31 | 30.35 | 35.68 | 33.05 |
| Stocks/cost of sales x 365 days | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 7.31 | 21.99 | 34.73 | 9.36 | 14.37 | 17.30 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | -8.88 | -16.31 | -38.00 | -10.94 | -20.05 | 90.71 |
| Interest cover % | 82.41 | 79.33 | 106.35 | 77.86 | 616.53 | 104.65 |

Source: Author

The ROCE, that shows the overall profitability of a company, in this case had been positive over the last six years with the exception of a value of -122.2% recorded in 2009. This negative value was due to the fact that in that year, ALC FMC Ltd (engaged in the delivery of C Vehicles) posted a -635.67%. None of the other SPVs recorded any PBIT losses over the last six years. This showed that most of the SPVs in the category of Defence Equipment had been profitable. Although the profit margins recorded by SPVs in the category of Defence Accommodation ranged from 40 – 49%, in the category of Defence Equipment, profit margins had ranged between 26 and 34%. This meant that on average profit margins achieved in the category of Defence Equipment

had been lower than those in Defence Accommodation. With the exception of the negative figures for asset utilisation ratio posted in 2009 (due to the dismal performance by ALC FMC Ltd in that year), the asset utilisation ratio had been steady; it ranged from 1.65 to 2.59 times. Again compared with the same ratio under the Defence Accommodation category, SPVs in the Defence Equipment category had a lower asset utilisation ratio.

Due to the absence of stocks, both the current and the liquid ratios for the five SPVs are identical. They had, however, been declining since 2006. The current ratios had never been above the textbook definition of 2.0 times. Moreover, in the last four years, these ratios had declined to values of less than 1.0 time. This meant, that on average, SPVs in the Defence Equipment category had not had enough current assets (or liquid assets since in this case they are the same) to settle their short-term liabilities. Compared with SPVs in the Defence Accommodation categories, the current and liquid asset ratios in the Defence Equipment categories had been worse. This suggests that the five SPVs under examination did not enjoy as comfortable a liquidity position as their Defence Accommodation counterparts.

On average, SPVs in the Defence Equipment category had been receiving monies owed to them by the MoD in more than 17 days but less than 36 days. These figures are comparable to those in the previous category. Additionally, the trade creditors' days had mostly been shorter than the trade debtors' days and that meant that the cash flow cycles, on average, had been put under stress just like in the case of the SPVs in the previous category.

The debt to equity ratios had been negative for most part because Genistics Ltd, Fasttrax Ltd and Alert Communications Ltd all had negative equity over some or most of the last six years. Therefore these negative ratios have no meaning. The interest cover had been greater than 100% in 3 out of the last six years. This meant that in those years, the interest bills had been higher than the PBITs made and therefore SPVs, on average, made losses.

Except for the mishap in 2009, ALC FMC Ltd does not cause any serious concerns. However, all the other four SPVs financial performance causes serious cause for concern. Although Genistics Ltd had been registering positive PBITs, this company always generated losses after interest and tax (except in 2008). It started the year 2006 with a huge accumulated loss and resultant negative equity. Due to losses in subsequent years, equity had been negative for this company.

Similarly, Fasttrax Ltd had been incurring losses after interest and tax in the years 2006 – 2008. Like Genistics Ltd, Fasttrax Ltd started the year 2006 with an accumulated loss that was so great as to cause equity to be negative. The profits after interest and tax from 2009 – 2011 have not been large enough to bring the negative equity inherited from the past into the positive region and thus over the last six years, Fasttrax Ltd has had negative equity.

Alert Communications Ltd also started with an accumulated loss in 2006 and up until 2009, this company had been incurring losses after interest and tax. In the last two years, although profits after interest and tax had been positive, they have not been large enough to turn the negative equity into a positive figure.

Paradigm Secure Communications Ltd started the year 2006 with an accumulated loss after interest and tax. These losses were so great that in spite of producing profits after interest and tax in the years 2006 – 2008, equity remained negative in the years 2006 and 2007. Equity turned positive in 2008 but because of the losses after interest and tax in the years 2009 and 2010, the positive equity turned negative again. In 2011, due to a large profit figure (after interest and tax), equity once again turned positive.

The negative equity simply means that these companies cannot financially survive and are in dire need of funds. Additionally, it means that there is no return available for the shareholders of these entities. If the shareholders (who are the owners of the SPV) continue to get nothing out of their investments, there can be little confidence that they would invest more. And therefore the future viability of the SPVs and the PFIs becomes questionable.

## 5.9 Defence PFIs Case Study 3: Training

Defence PFIs in this category are of the type where the MoD has signed PFI contracts with the private sector where the latter is involved in the designing, building, financing and operation of defence equipment that would be used to train members of the armed forces. The following sub-sections show financial ratio analysis of all the Defence PFIs in this category.

### 5.9.1 Sub-Case Study A: Project Army Foundation College

Defence Training Services Ltd was formed in 2000 to design, build and provide facilities management services at the Army Foundation College Harrogate under a 30 year PFI contract.[44] Using the unqualified audited financial statements of Defence Training Services Ltd for the past six years, the following financial ratios covering profitability, liquidity and working capital as well as gearing are shown in Table 5.17 below:

**Table 5. 17: Key financial ratios of Defence Training Services Ltd**

| **Defence Training Services Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 182.87 | -394.67 | -837.04 | -26.87 | 53.85 | -4.11 |
| PBIT/Sales % | 13.23 | 4.81 | 1.75 | 0.93 | -0.70 | 0.57 |
| Sales/Capital employed times | 13.83 | -82.04 | -478.52 | -28.94 | -76.55 | -7.24 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 1.18 | 0.98 | 1.00 | 0.94 | 0.98 | 0.81 |
| Liquid assets/current liabilities times | 1.18 | 0.98 | 1.00 | 0.94 | 0.98 | 0.81 |
| Trade debtors/sales x 365 days | 0.03 | 0.84 | 0.37 | 0.00 | 0.00 | 0.00 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 32.99 | 82.13 | 55.35 | 45.46 | 46.39 | 70.78 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 19.31 | 37.18 | 59.10 | 97.73 | 133.81 | 236.83 |
| Interest cover % | -27.34 | -66.87 | -222.12 | -482.61 | 615.58 | -677.59 |

Source: Computed from the annual financial statements of Defence Training Services Ltd 2006 -2011

PBIT in all the six years except 2007 was positive. However, capital employed in all the years up to and including 2010 was negative. For these reasons, ROCE had been a negative ratio in the last six years except in 2007 and 2011. Between 2007 and 2009, ROCE was not only negative but increasingly more negative. Thus in the years 2006 to 2010, ROCE was giving the impression that this company was continuously making losses. On the contrary, PBIT had been positive and rising since 2006. The negative capital employed is the result of huge amounts of short-term creditors. The only meaningful ROCE ratio was that of 2011, when both PBIT and capital employed were positive; indicating that for every £1 invested in Defence Training Services Ltd, this company produces returns of £1.83. Since there was only one meaningful ROCE ratio, no trend in ROCEs could be observed. More data from the future (when capital employed is positive) would be needed before a trend may become visible in the ROCE.

The profit margin was also seen to be rising since 2006 (except in 2007, when PBIT was negative thereby indicating that the company made a loss in that year); it jumped significantly between 2010 and 2011. This seems to suggest that Defence Training Services Ltd was progressively managing its costs better and had set (or was setting) its prices appropriately that were producing generous profits. Due to the fact that capital employed was negative in the first five years, the asset utilisation ratio was meaningless in these years and could not be interpreted. However, in 2011, this ratio stood at 13.83 times meaning that for every £1 invested, sales of £13.83 are generated. However, since there was only one meaningful asset utilisation ratio, it was impossible to state any defined trends in these. More data from future years, where capital employed is positive will be needed to see the sort of trend, if any, these ratios have developed. The negative capital employed that this company had had since 2006 up until 2010 is cause for concern because it means that Defence Training Services Ltd's short-term liabilities are greater than its assets and this in turn means that in the short to medium-term, it may face going concern problems unless the situation changes dramatically. It was 2011 before capital employed became positive and it remains to be seen if this move into the positive territory is the start of a new trend or just an abnormal move before it returns to the negative region.

Like other SPVs, this company does not hold stocks and thus its current and acid test ratios are identical. These ratios indicated that the current and the acid test ratios have been in a steady uptrend since 2006; rising from 0.81 times to 1.18 over the six years. The current assets of Defence Training Services Ltd comprised only of cash and thus in the years 2006, 2007, 2008 and 2010 when these ratios were less than 1.0 times, this SPV did not have enough cash to cover its short-term liabilities. This may not be a cause for concern if Defence Training Services Ltd enjoys a healthy relationship with its short-term creditors. Nonetheless they had been less than the ideal standards of 2.0 times and 1.0 times for current ratio and acid test ratio respectively.

The trade debtors' days had remained insignificantly low at under one day over the six year period. This indicated that Defence Training Services Ltd recovered its money from its customers almost immediately when they were due. In comparison to these, the trade creditors' days ratios had gone as high as 82.13 days in 2010 and as low as 32.99 days in 2011. This meant that whilst Defence Training Services Ltd was quick in recovering monies from its customer, it was slow at making payments to its short-term creditors giving it ample time to use the idle cash elsewhere. Indeed, Defence Training Services Ltd had been investing this idle cash in interest bearing accounts. The wide gap between these two ratios also indicated that there was no stress in the working capital cycle.

From the borrowing ratios, it can be deduced that gearing was on a downtrend. This is expected of any SPV that as the PFI contracts progresses, the SPV would make profits and start paying back its loans with the effect that borrowing reduces, equity rises and thus the borrowing ratios decrease. Indeed, in the case of Defence Training Services Ltd, borrowing had been reducing over the last six years and equity had been rising during this time period. This was a positive sign indicating that Defence Training Services Ltd is heading in the right direction in terms of its finances. Nonetheless, the borrowing ratios had been very large initially; total borrowing was 236.83 times larger than equity in 2006 and 19.31 times larger than equity in 2011. But could this SPV afford such a funding mix? The interest cover for all these years was not meaningful since during this period, interest received had been greater than interest paid. Thus

Defence Training Services Ltd had been more than comfortable servicing its loans. However, if interest rates were to rise and the interest payments became larger than the interest received, then with such high borrowing ratios, the funding mix could become unaffordable.

Overall, PBIT had been rising over the years and that was a positive sign. However, capital employed had been negative for most of the last six years. Negative capital employed meant that the current liabilities were larger than the assets of Defence Training Services Ltd. This could mean that this SPV's operations in the future as a going concern are doubtful. However, in 2011, the capital employed moved into the positive territory. If it continues to remain positive, then the going concern status of this company will not be at risk and vice versa. Additionally, the short-term liquidity position had been improving although in some of the years under study, it was less than 1.0 times indicating that if its short-term creditors had demanded full and immediate payments, Defence Training Services Ltd would have found it difficult to satisfy them. The borrowing ratios were moving in the right direction and this company had been very comfortable in affording its funding mix over the last six years.

### 5.9.2 Sub-Case Study B: Project Astute Class Training Services

Fast Training Services Ltd is engaged in the operation of Astute Class Training Services for the Royal Navy.[45] The 30 year PFI contract for these services was signed in September 2001 between the MoD and Fast Training Services Ltd, the SPV, to design, construct, manage, finance and operate an integrated simulator-based submarine training facility.[46] The unqualified audited financial statements of Fast Training Services Ltd for the past six years have been used to compute certain key financial ratios. These are shown in Table 5.18 below:

**Table 5. 18: Key financial ratios of FAST Training Services Ltd**

| FAST Training Services Ltd | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 7.05 | 11.04 | 1.09 | 1.28 | 6.80 | 8.04 |
| PBIT/Sales % | 34.72 | 51.51 | 9.11 | 13.31 | 362.10 | 47.26 |
| Sales/Capital employed times | 0.20 | 0.21 | 0.12 | 0.10 | 0.02 | 0.17 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 1.14 | 1.18 | 0.75 | 1.35 | 0.07 | 0.12 |
| Liquid assets/current liabilities times | 1.14 | 1.18 | 0.75 | 1.35 | 0.07 | 0.12 |
| Trade debtors/sales x 365 days | 12.98 | 17.10 | 196.53 | 52.43 | 0.00 | 16.13 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 84.92 | 120.77 | 121.26 | 66.79 | 6.04 | 50.59 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | -26.86 | -31.15 | -14.77 | -57.87 | 39.58 | 43.85 |
| Interest cover % | 107.06 | 65.62 | 629.25 | 413.23 | 90.99 | 66.29 |

Source: Computed from the annual financial statements of FAST Training Services Ltd 2006 -2011

The ROCE ratios over the last six years revealed that they had been in a downtrend since 2006. They bottomed out in 2009 when ROCE fell down to 1.09%. However, in the subsequent years, ROCE jumped to 11.04% and 7.05% respectively. Based on year-on-year comparisons, it was only in 2010 that ROCE was higher than in the previous year. Therefore it remains to be seen whether post 2011, the upward move in ROCE recorded first in 2010 would continue. If it does not, then it means that the jump in ROCE in 2010 was just a temporary correction in the downtrend that had been in progress since 2006. In all these years, the cost of money sourced from third party financiers stood at around 6.5 – 7.5%. Thus in the years 2008 and 2009, the return generated by Fast Training Services Ltd fell well below the cost of the funds invested in this company. This would be a cause for concern in those two years, because it means that more is going into the company whilst less is coming out. If this trend were to continue, the company would begin making losses.

The abnormally high other income received in 2007 caused PBIT to be exceptionally high in that year. This led to the profit margin in that year to be as high as 362.10% - an extreme value. Otherwise, from 2006, the profit margin had been on the decline until 2010 when it started to move upwards before dipping in 2011. The declining profit margins in the first four years would be a cause for concern because it indicates that Fast Training Services Ltd's costs are ballooning whilst its prices are getting less effective in containing the costs. More data from future years would need to be analysed to deduce whether the upward movement in the profit margin in 2010 is the start of an uptrend or a correction in the existing downtrend. The asset utilisation ratios have remained insignificantly small; although they have been rising steadily.

In the absence of stocks, the current and the acid test ratios for Fast Training Services Ltd are identical. It can be observed that no defined trend in these ratios could be seen. With the exception of 2008, 2010 and 2011 when these ratios stood at more than 1.0 times, in all the other years, this ratio had remained under 1.0 times. This is below the ideal standard of 2.0 times for the current ratio and 1.0 times for the acid test ratio. In 2007, the current ratio stood at a meagre 0.07. The current assets of Fast Training Services Ltd comprised of cash only. This meant that in 2007, the cash available was just enough to cover 7% of the current liabilities. A major proportion of current liabilities in that year were in the form of short-term bank loans. This would have been a risky situation to be in because if the banks or other short-term creditors of Fast Training Services Ltd were to demand immediate and full payments for the amounts owed to them, this SPV would not have been able to satisfy them. So long as the current ratio remains above 1.0 times, the short-term liquidity position of Fast Training Services Ltd remains comfortable since its current assets comprised of cash only.

The trade debtors' days had been fluctuating widely over the last six years; touching a high of 196.53 days in 2009 and a low of 0 days in 2007. No defined trend could be observed in these ratios. However, it does indicate that Fast Training Services Ltd did not always recover the cash from its customer immediately. On the other hand, the trade creditors' days also did not show any defined trends; they range from 6.04 days in 2007 to 121.26 days in 2010. Comparing the two ratios, it was only in 2009 when the trade

debtors' days were more than the trade creditors' days. This meant that it took Fast Training Services Ltd longer to recover cash from its customer than it took to make cash payments to its suppliers. In all other years, this company had enough time to make payments to its trade creditors. Thus with the exception of 2009, in all other years the significant gap between the trade debtors' days and the trade creditors' days suggests that the working capital cycle of Fast Training Services Ltd was not under stress.

The borrowing ratios dropped in the first two years although in money terms, total borrowings increased over this period. In subsequent years, the borrowing ratios turned out to be negative because equity became negative. In spite of PBIT being positive throughout, the huge interest bills in the last six years resulted in Fast Training Services Ltd posting net losses. This caused equity to turn negative. Results from the last four years did not indicate that equity was moving away from the negative region and into the positive region. Negative equity meant that this SPV was insolvent; meaning it did not have the ability to pay back its loans. If this negative equity does not turn positive in the future, this would be of great concern to the third party financiers who have advanced huge loans to Fast Training Services Ltd. This may also limit the ability of Fast Training Services Ltd to raise further loans and could eventually be bankrupt; causing a cessation of its services. The interest cover shows that it had been on the higher side in most of the last six years. For instance, in the years 2008, 2009 and 2011, the interest bill was higher than the PBIT in those years. It is therefore not surprising that this company posted net losses in those years. This meant that in those years, Fast Training Services Ltd had not been able to service its loans. Although no defined trend in the interest cover could be traced, so long as it remained above 100%, it will be a cause for concern because it means the company will not be able to service its loans.

In summary, whilst the company had been profitable in the last six years (based on PBIT), it was only in the year 2010 that ROCE was higher than the previous years. It remains to be seen if the upward movement in ROCE in 2010 is the start of an uptrend or a correction in the existing downtrend. The interest bills in some of the years were higher than the PBIT causing this company to post net losses in those years. The short-term liquidity ratios did not show any defined trend and at one point were very low that

could have caused Fast Training Services Ltd cash flow problems if their short-term creditors had demanded full and immediate payments. The working capital cycle seems to be stress-free for most of the last six years. The negative equity in the last four years meant that this company was insolvent. Coupled with high interest bills (compared with PBIT), this company did not have the means to pay back its loans and had been having difficulty in servicing its loans. If this were to continue, this company may very easily become bankrupt and cease rendering its services to the MoD.

### 5.9.3 Sub-Case Study C: Project Attack Helicopters Training

Aviation Training International Ltd signed a 19 year PFI contract in August 1998 with the MoD to provide the British Army with non-airborne training for helicopter aircrew, ground crew and maintenance personnel. The unqualified audited financial statements of Aviation Training International Ltd for the past six years were used to compute key financial ratios covering the areas of profitability, short-term liquidity and working capital as well as gearing ratios. These are shown in Table 5.19 below:

**Table 5. 19: Key financial ratios of Aviation Training International Ltd**

| **Aviation Training International Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 27.83 | 25.21 | 17.03 | 16.55 | 21.39 | 13.17 |
| PBIT/Sales % | 34.17 | 38.61 | 34.80 | 40.42 | 44.76 | 41.51 |
| Sales/Capital employed times | 0.81 | 0.65 | 0.49 | 0.41 | 0.48 | 0.32 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 0.98 | 1.05 | 0.86 | 1.01 | 1.43 | 2.14 |
| Liquid assets/current liabilities times | 0.93 | 1.00 | 0.81 | 0.94 | 1.34 | 1.99 |
| Trade debtors/sales x 365 days | 23.38 | 27.54 | 57.41 | 29.55 | 0.38 | 46.85 |
| Stocks/cost of sales x 365 days | 17.64 | 17.77 | 25.91 | 31.83 | 29.43 | 45.01 |
| Trade creditors/purchases x 365 days | 8.44 | 1.04 | 7.16 | 8.09 | 38.34 | 1.05 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 0.79 | 1.31 | 2.23 | 3.08 | 4.47 | 15.12 |
| Interest cover % | 24.01 | 25.59 | 43.36 | 40.17 | 29.78 | 52.01 |

Source: Computed from the annual financial statements of Aviation Training International Ltd 2006 - 2011

The ROCE was observed to be in an uptrend, rising steadily from 13.17% in 2006 to 27.83% in 2011. In all these years, PBIT had been positive. The average interest rate paid for funds secured from third party financiers had been fluctuating between 7 and 9% over the last six years. This meant that Aviation Training International Ltd had been generating returns that were well in excess of the cost of the majority of the funds invested in it. This ensured that the equity of this company grew and made it progressively more able to pay back its loans and provide a return for the shareholders of this company. The profit margin had also been oscillating between 34 and 45% over these years. This showed that Aviation Training International Ltd had been quite successful at managing its costs against the sales it had been generating. The asset utilisation ratios had been insignificantly small though they had been on the rise in the last six years.

This company holds stocks and thus the current and the acid test ratios are different. The current ratios were moving downwards from 2.14 times in 2006 to just under 1.0 times in 2011. Thus with the exception of the current ratio in 2006, in all other years, the current ratio was under the ideal standard of 2.0 times. In the years 2008, 2009 and 2011, when the current ratio was very close to 1.0 times, this meant that in these years, the current assets when liquidated completely would have been just enough to cover the current liabilities. Given the fact that majority of Aviation Training International Ltd's current liabilities were short-term loans, this SPV may have run into trouble if the third party financiers were to demand full and immediate payments. If the downward trend in the current ratio continues beyond 2011, this difficulty (mentioned above) could easily become a reality and if it does, the cash flow problems could stall the operations of this SPV. The acid test ratio that excludes stocks also showed a similar downward trend over the last six years. In the case of Aviation Training International Ltd, the liquid assets were entirely made up of cash and thus whilst this SPV was in a comfortable position in some of the years where the acid test ratio was more than 1.0 times. However, in the years 2008, 2009 and 2011, the liquid assets (i.e. the cash) was less than the current liabilities and the same challenges as those mentioned in the case of current ratios are valid in this case as well.

The stock days and the trade debtors' days were both rising over the last six years. This meant that in the working capital cycle, Aviation Training International Ltd was taking longer to convert stocks into cash. On the other hand, the trade creditors' days were getting shorter; meaning the company was making payments to its suppliers faster. In some years the sum of the stock days and the trade debtors' days was well in excess of the trade creditors' days. This meant that the working capital cycle was being put under stress in at least five out of the last six years. If this trend were to continue, this company could start facing cash flow problems.

The borrowing ratios had been in a defined downtrend; dropping from 15.12 times in 2006 to 0.79 times in 2011. This is what is expected of SPVs involved in PFI contracts. They start with huge funding from third party financiers and as the PFI contracts progress, they make profits, pay back their loans and increase equity. This was exactly

what had been happening in the case of Aviation Training International Ltd. Thus this showed that its finances were moving in the right direction. The 0.79 level reached in 2011 meant that for every £1 invested in the form of equity, only 79p was being invested in the form of funds secured from third party financiers. The interest cover revealed that although borrowing ratio was very high in 2006, only about 52% of Aviation Training International Ltd's PBIT was used up in paying interest; leaving the rest for reinvestment in the business and the taxman. The interest cover was also in a downtrend and is expected of a SPV that is making profits and paying back its loans. Thus Aviation Training International Ltd was progressing excellently in the right direction as far as its finances were concerned.

In a nutshell, the profitability of this company was rising. However, the short-term liquidity position was deteriorating; meaning the quality of the profits was getting poor year-on-year. The working capital cycle was also getting stressed. On the positive side, the company was paying back its loans as its equity was rising. It has no problems affording the funding mix that it had over the last six years.

### 5.9.4 Sub-Case Study D: Project Defence Sixth Form College

In May 2003, Minerva Education and Training Ltd signed a £250 million Defence Sixth Form College PFI contract with the MoD.[47] This SPV designed and built the college in Loughborough. It has a capacity of 340 MoD students and it will be a principal source of Technical Officer recruitment to all the UK Armed Forces and the MoD civil service, delivering around 165 young men and women educated to A-Level standard each year. Based on the unqualified accounts of Minerva Education Training Ltd, the following key financial ratios were computed. These are shown in Table 5.20 below:

**Table 5. 20: Key financial ratios of Minerva Education and Training Ltd**

| **Minerva Education and Training Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | -3,442.70 | -54.17 | -457.07 | -127.55 | -148.33 | -35.20 |
| PBIT/Sales % | 29.00 | 9.13 | 27.29 | 19.50 | 24.26 | 1.19 |
| Sales/Capital employed times | -118.70 | -5.93 | -16.75 | -6.54 | -6.11 | -29.52 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 0.98 | 0.64 | 0.83 | 0.64 | 0.58 | 0.50 |
| Liquid assets/current liabilities times | 0.98 | 0.64 | 0.83 | 0.64 | 0.58 | 0.50 |
| Trade debtors/sales x 365 days | 0.00 | 55.66 | 2.70 | 21.06 | 1.55 | 0.00 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 1.47 | 1.08 | 22.57 | 5.03 | 41.26 | 4.23 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 20.90 | -55.09 | -207.02 | -29.47 | -29.44 | -20.34 |
| Interest cover % | -4.60 | -4.32 | -1.39 | 2.54 | 8.16 | 34.00 |

Source: Computed from the annual financial statements of Minerva Education and Training Ltd 2006 - 2011

The ROCE, had been negative over the last six years. Additionally in 2011, this negative ROCE reached about 3,440% level. Although PBITs had been positive and rising over this time period, this company had been suffering from negative equity (except in 2011) and negative net assets throughout. The negative equity in the years 2006 to 2010 had been due to the fact that in 2006, this company started with an accumulated loss. The positive PBITs in the years 2006 – 2010 were not large enough to convert the negative equity into a positive figure. In 2011, the net assets figure had drastically come to a very low figure and this caused the ROCE to shoot up dramatically to the 3,440% level. The profit margin had been positive throughout although it was difficult to observe any defined trends in its levels. The asset utilisation ratio had been negative throughout and as such had no meaning.

In the absence of stock held by this SPV, the current and liquid asset ratios are identical. However, both these ratios had always been less than 1.0 times. Thus in comparison

with a textbook definition of 2.0 times for the current asset ratio, it was observed that Minerva Education and Training Ltd's current assets (and its liquid assets), if liquidated, would not be enough to settle its short-term liabilities. Therefore, this company could face liquidity problems. The trade debtors' days had been zero in 2006 and 2011 because there were no trade debtors at the year-end in those years. This meant that in those years, the SPV received all of the monies owed to it by the MoD on time. In years 2007 – 2010, the trade debtors' days had been greater than zero but had not been following any particular trend. Similarly, no clear trend was visible in the trade creditors' days. In the years 2008 and 2010, trade creditors' days had been larger than the trade debtors' days. This meant that in these years, the SPV had had to make payments to its suppliers quicker than it has received payments from the MoD. This could have put the cash flow cycle of this company under stress.

No significant understanding of the debt to equity ratios could be made because they were all (but one) negative. Similarly, the negative interest cover levels in the years 2009 to 2011 rendered them meaningless. Due to the fact that these two set of ratios were meaningless because of being in the negative region, it means that as far as gearing is concerned, this company has severe financial problems.

Thus, whilst, this SPV was making profits, they were not large enough to turn the negative equity accumulated over the years into a positive except in the last year. The SPV's net assets had been negative throughout and this meant that its liabilities were larger than its assets and as such it was insolvent. As a result the financial existence of this company in the foreseeable future is doubtful. The liquidity position of this company was not optimum either.

### 5.9.5 Sub-Case Study E: Project Joint Services Command and Staff College

Defence Management (Watchfield) Ltd signed a 28 year PFI contract with the MoD to design, build, finance and operate the Joint Services Command and Staff College.[48] This contract was signed in June 1998.[49] Based on the unqualified audited financial statements of Defence Management (Watchfield) Ltd, the following key financial ratios

covering profitability, short-term liquidity and working capital cycle as well as gearing has been computed. These are shown in Table 5.21 below:

**Table 5. 21: Key financial ratios of Defence Management (Watchfield) Ltd**

| **Defence Management (Watchfield) Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | -237.53 | 3,535.04 | -386.44 | 10,465.08 | -3,102.86 | 743.59 |
| PBIT/Sales % | 19.66 | 21.10 | 25.50 | 30.83 | 34.52 | 36.49 |
| Sales/Capital employed times | -12.08 | 167.56 | -15.15 | 339.46 | -89.87 | 20.38 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 0.87 | 1.01 | 0.88 | 1.01 | 0.98 | 1.10 |
| Liquid assets/current liabilities times | 0.87 | 1.01 | 0.88 | 1.01 | 0.98 | 1.10 |
| Trade debtors/sales x 365 days | 2.68 | 0.00 | 3.13 | 2.83 | 2.59 | 0.00 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 4.47 | 23.62 | 4.91 | 13.78 | 14.30 | 0.00 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 1.69 | 2.04 | 2.46 | 3.07 | 4.15 | 6.93 |
| Interest cover % | -15.19 | -19.46 | -9.47 | -10.12 | -6.13 | -9.89 |

Source: Computed from the annual financial statements of Defence Management (Watchfield) Ltd 2006 - 2011

As far as profitability is concerned, in the years 2007, 2009 and 2011, the capital employed was negative because the short-term liabilities were more than the assets of Defence Management (Watchfield) Ltd. This caused the ROCE in these years to be negative and hence the ROCE in these years could not be interpreted. The failure to interpret ratios means that severe financial problems exist. However, in money terms, the PBIT in the last six years had been positive but also in a downtrend; dropping from £8.2 million in 2006 to £3.9 million in 2011.[50] The exceptionally large ROCE in 2008 was the result of the fact that although PBIT in that year was lower than in the previous year, the capital employed was positive and smaller in absolute terms compared with the previous year. Due to the number of meaningless ROCEs, no clear trend in these ratios could be observed. The negative value of net assets meant that in the short-term, this company was insolvent and if the capital employed continues to be negative, it may

choke the working capital cycle and lead to bankruptcy. The profit margins over the last six years were also on a downtrend; dropping from 36.49% in 2006 to 19.66% in 2011. This suggests that Defence Management (Watchfield) Ltd was losing grip in managing its costs. If this downtrend continues, Defence Management (Watchfield) Ltd may find itself in a situation where it is unable to service its loans and starts making net losses. Due to the fact that capital employed in the three out of the last six years was negative, the asset utilisation ratios for those three years were meaningless. The other three years' ratios did not show any clear trend in them.

Defence Management (Watchfield) Ltd does not hold stocks and thus its current and acid test ratios are identical. The current ratios were in oscillation slightly above and below the 1.0 times mark over the last six years. In years 2006, 2008 and 2010, when the current ratio was higher than 1.0 times, Defence Management (Watchfield) Ltd was in a comfortable position if all the short-term creditors had demanded full and immediate payments. This was because the current assets (that comprise of cash only) were more than the current liabilities in those years. However, in years, 2007, 2009 and 2011 when the current ratios were less than 1.0 times, this SPV would have run into difficulty satisfying full and immediate payments to its short-term creditors. The trade debtors' days had been low in the past six years; they had never exceeded four days. This meant that Defence Management (Watchfield) Ltd was very quick at recovering cash from its customer. The trade creditors' days showed no clear trend over the same time period. However, it was always greater than the trade debtors' days in each of the last six years. This gap between these two sets of ratios meant that the working capital cycle had not been under stress during this duration.

The borrowing ratios were in a clear downtrend; dropping from 6.93 times in 2006 to 1.69 times in 2011. This is expected of successful SPVs as the PFI contract progresses, profits are made, loans are paid back and equity rises. In the case of Defence Management (Watchfield) Ltd, total borrowings had been decreasing and equity had been rising since 2006. Due to the fact that in PFI contracts, SPVs are mostly funded by third party financiers, it is expected of them to be highly geared. The declining borrowing ratios showed that Defence Management (Watchfield) Ltd was progressively

becoming less geared. The interest this SPV earned was more than the interest payments and thus the interest cover ratios were meaningless. But they did show that Defence Management (Watchfield) Ltd had no problem affording the funding mix it had had over the last six years.

Overall, PBIT was falling in money terms year-on-year. The negative capital employed in three out of the last six years is worrisome because it means that Defence Management (Watchfield) Ltd was insolvent in the short-term. Unless this SPV moves the capital employed into a positive region, dark clouds of uncertainty with regards to its profitability will hang over this company. The short-term liquidity position had not been that bad in these last six years. However, in the years where the current assets had been less than the current liabilities, if Defence Management (Watchfield) Ltd enjoys healthy relationships with its supplier and banks, the short-term liquidity position of this SPV was not under threat. The borrowing ratios were dropping and this company was very comfortable with affording its funding mix. A continuation of the trends in the gearing ratios would be a move in the right direction as it would enable this SPV to payback and service its loans and eventually provide greater returns to its shareholders.

### 5.9.6 Sub-Case Study F: Project Hawk Simulator

On the 1st of December 1997, the MoD signed an 18 years PFI for the supply and operation of the Hawk Synthetic Training Facility with BAE Systems (HAWK Synthetic Training) Ltd.[51] This SPV was initially incorporated as Reflectone (HAWK Synthetic Training) Ltd. The business is managed by BAE SYSTEMS (Operations) Ltd[52] - this is a subsidiary of BAE SYSTEMS plc.[53] The unqualified audited financial statements of BAE Systems (HAWK Synthetic Training) Ltd have been used to compute the following financial ratios. These are shown in Table 5.22 below:

**Table 5. 22: Key financial ratios of BAE Systems (HAWK Synthetic Training) Ltd**

| **BAE Systems (HST) Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | -163.60 | -168.60 | 22.63 | -37.45 | -6.75 | 12.74 |
| PBIT/Sales % | 51.48 | 14.96 | 13.86 | -31.10 | -9.10 | 25.83 |
| Sales/Capital employed times | -3.18 | -11.27 | 1.63 | 1.20 | 0.74 | 0.49 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 0.00 | 0.71 | 1.75 | 0.23 | 0.81 | 0.30 |
| Liquid assets/current liabilities times | 0.00 | 0.71 | 1.75 | 0.23 | 0.81 | 0.30 |
| Trade debtors/sales x 365 days | 0.00 | 70.02 | 31.13 | 91.25 | 0.00 | 0.00 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 0.29 | 0.00 | 0.00 | 0.20 | 0.69 | 0.86 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | -1.24 | -1.03 | -1.44 | -1.32 | -2.02 | -2.53 |
| Interest cover % | 37.86 | 120.80 | 111.96 | -74.26 | -197.51 | 85.87 |

Source: Computed from the annual financial statements of BAE Systems (HAWK Synthetic Training) Ltd 2006 -2011

The ROCE, for this SPV had been negative in four out of the six years. In 2006 and 2009, ROCE was positive and was above the 12% and 22% mark respectively. This indicated that in these years, this SPV made an overall profit before interest and tax of 12.74p and 22.63p for every £1 invested in it. For an SPV that had been in operation since 1998, it would be expected that by 2006 it would have started producing positive returns for the shareholders. However, in 2007 and 2008, the PBIT figures turned out to be negative because cost of sales for these years was more than the respective revenues. This caused the ROCE to be negative in these years. In the years 2010 and 2011, although PBITs were positive and larger than in previous years, the net assets of this SPV were negative. Moreover a close look at the value of equity over the last six years revealed that it has been negative throughout. This meant that ever since the incorporation of this SPV, this company had not been able to move into the profitable areas despite making profits (after interest and tax) in 2006 and 2011. With only seven more years to go before the end of the PFI contract, the inability of this company to turn

its equity from the negative position to the positive one is a cause for concern. If the current trend continues, it is difficult to see this SPV making a profit on the overall PFI contract by the end of 2018.

The profit margin had been rising since 2009, though it was negative in the years 2007 and 2008. In 2006, this SPV registered a large but positive profit margin. Again the negative profit margins in these two years could be explained by the inability of this SPV to control its costs with respect to its revenues for those years. If the rising profit margin figures from 2009 onwards were to continue into the future, there is hope that this SPV would move towards greater profitability. The last profitability ratio revealed the extent to which the assets have of BAE Systems (HAWK Synthetic Training) Ltd had been used to produce sales. These had been positive and had been increasing from 2006 to 2009. However, due to the negative value of net assets in 2010 and 2011, this ratio turned negative in these two years. The negative values for this ratio were meaningless. However, between 2006 and 2009, it can be interpreted that this SPV had progressively been using its assets more effectively to generate sales. It remains to be seen whether these ratios turn positive in the future. Thus, overall, the profitability of this SPV was in bad shape and a serious cause for concern.

Due to the fact that BAE Systems (HAWK Synthetic Training) Ltd does not hold stocks, the current and the acid test ratios are identical. Between 2006 and 2010, no clear trend could be seen in these ratios. In 2006, 2008 and 2010, these ratios are less than 1.0 times. This meant that in these years, if all the current assets of BAE Systems (HAWK Synthetic Training) Ltd were liquidated, they would not have been enough to cover the respective current liabilities. This implied that the short-term liquidity position of this SPV was at a risk and it was operating at the mercy of its current creditors. If the latter had demanded full immediate payments, this SPV would not have had the resources to satisfy their demands. In 2011, because there were no current assets, these ratios were zero. This meant that in 2011, it would have been impossible to satisfy current creditor demands for full and immediate payments in that year.

In 2006, 2007 and 2011, this company did not have trade debtors and so the trade debtors' days for these years were zero. Similarly, in 2009 and 2010, BAE Systems (HAWK Synthetic Training) Ltd had no trade creditors and so the trade creditors' days were also zero. In the years 2008 to 2010, it can be seen it took this SPV longer to receive payments from its trade debtors whilst it paid its trade creditors almost immediately. Due to the fact that the payments from its trade debtors were relatively larger than the payments to trade creditors, this situation did not put a strain on the cash flows of this company. Overall, it is difficult to describe short-term liquidity position over the last six years in one word because it had been changing a lot.

The borrowing ratio had been negative over the last six years because equity over this period had been negative. These ratios should always be positive. But because they were negative, these ratios were meaningless. The only message from them was that this SPV's financial condition was in very bad shape. The interest cover revealed that in 2007 the interest bill for BAE Systems (HAWK Synthetic Training) Ltd was about twice the size of the loss incurred in that year. Similarly, in 2008, the interest bill was about 75% the size of the loss in that year. Thus in these two years, not only did the company make a loss (before interest and tax) it was unable to pay its interest bill in those years. In 2009 and 2010, although PBIT was positive, however, the interest bills were larger than the PBITs for these years and thus profit after interest and tax for these years turned out to be negative. Thus in 2009 and 2010, this company could not fully service its loans. It was only in 2006 and 2011, that BAE Systems (HAWK Synthetic Training) Ltd could comfortably service its loans. Thus although no overall trend could be seen in the interest cover, this company had been having serious problems affording its financial mix.

Overall, the profitability of BAE Systems (HAWK Synthetic Training) Ltd was not good and it can be clearly seen that this SPV had been struggling to service its loans. With a huge negative equity even by the end of 2011, and poor short-term liquidity positions over the last six years, it is difficult to see a bright future for this company.

### 5.9.7 Sub-Case Study G: Project Medium Support Helicopter Aircrew Training Facility

A 40 year PFI contract was signed on 16th October 1997 between the MoD and CAE Aircrew Training Services plc for the operation of the Medium Support Helicopter Aircrew Training Facility.[54] Under this PFI, the MoD can terminate the contract after 20 years. This training facility, at RAF Benson, is equipped with six full-mission simulators configured for the CH-47 Chinook, EH101 Merlin and Puma Helicopters.[55] The Medium Support Helicopter Aircrew Training Facility is delivering the total spectrum of synthetic aircrew training demanded by the RAF Support Helicopter Force to meet its needs in the 21st century. Additionally, this training facility also has the ability to earn third party revenues by offering its services to other countries. In fact Royal Netherlands Air Force and Australian Army Aviation Chinook crews routinely train alongside their RAF counterparts before deployment.[56] Using the unqualified audited accounts of CAE Aircrew Training Services plc, the SPV in this PFI contract, key financial ratios have been calculated. These are shown in Table 5.23 below:

**Table 5.23: Key financial ratios of CAE Aircrew Training Services plc.**

| CAE Aircrew Training Services plc | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 3.54 | 23.32 | 51.06 | 33.78 | 29.46 | 48.14 |
| PBIT/Sales % | 0.91 | 7.98 | 16.03 | 10.57 | 7.95 | 12.58 |
| Sales/Capital employed times | 3.88 | 2.92 | 3.19 | 3.19 | 3.71 | 3.83 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 1.08 | 1.32 | 1.49 | 1.24 | 1.11 | 1.08 |
| Liquid assets/current liabilities times | 1.08 | 1.32 | 1.49 | 1.24 | 1.11 | 1.08 |
| Trade debtors/sales x 365 days | 51.46 | 15.75 | 6.34 | 45.87 | 46.68 | 40.66 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 51.62 | 31.83 | 21.19 | 32.65 | 9.27 | 39.79 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 0.44 | 0.39 | 0.39 | 0.67 | 0.94 | 1.20 |
| Interest cover % | 139.66 | 13.91 | -0.34 | 3.09 | 11.34 | 8.51 |

Source: Computed from the annual financial statements of CAE Aircrew Training Services plc 2006 - 2011

The ROCE, had been positive over the last six years. Between 2006 and 2010, this ratio had been fluctuating above 23% and below 52%. However from 2009 onwards, the ROCE for this SPV had been declining – with the decline between 2010 and 2011 being very significant. A glance at the profit margins for the six year period revealed that this ratio had also been in decline from 2009 onwards. Additionally, like the ROCE, the profit margin in 2011 had dropped significantly from the level in the previous year. This sudden drop in this profitability ratio and the profit margin was due to the fact that cost of sales was marginally different from revenues in 2011. This suggests that in 2011, this SPV was struggling with increased costs. No reason could be cited for the downtrends in these two ratios from the annual accounts of CAE Aircrew Training Services plc over the years 2009 – 2011. The asset utilisation ratio had more or less remained stable over the period under study. Thus overall, although CAE Aircrew Training Services plc had been profitable over the years, if the downtrend in ROCE and profit margin from 2009

onwards were to continue, it would not be long before this SPV slips into a loss making position.

This SPV does not hold stocks and thus the current and the acid test ratios are identical. Over the last six years, both these ratios had formed a bell-shaped curve ranging from 1.08 times to 1.49 times. The current ratios for this SPV fall short of the textbook definition of good short-term liquidity that is defined by a current ratio of 2.0 times. Nevertheless, the current assets had always been more than the current liabilities over the period under study. This meant that this SPV had been enjoying a comfortable liquidity position in the short-term. With the exception of 2009 and 2010, the trade debtors' days had been in an upward trend. This meant that CAE Aircrew Training Services plc had progressively been taking longer to receive its payments from the MoD for the services it renders. The abnormally low values for trade debtors' days in 2009 and 2010 were accounted for by the low value of trade debtors' figures for those years. An examination of the annual accounts of CAE Aircrew Training Services plc for these two years did not reveal the reasons why such small amount of trade debtors remained at the end of these years.

More importantly, the trade creditors' days had also been in an uptrend from 2007 onwards. The extreme value of 9.27 trade creditors' days in 2007 was as a result of a low trade creditors' figure recorded at the end of that year. In the years 2007 and 2008 the trade creditors' days were lower than the trade debtors' days. This meant in these two years, this SPV was taking longer to receive money from MoD and paying its trade creditors faster. However, the trade debtors' figures for these two years were higher than the trade creditors' figures and thus the cash flow cycle of this SPV would have been spared from any tension. Thus CAE Aircrew Training Services plc enjoyed good short-term liquidity and its cash flow cycle was not subject to stress.

The borrowing ratio had been declining steadily over the last six years because equity had been increasing and outstanding loans had been dropping. In 2006, total borrowings exceeded total equity. However over the years as this SPV made profits, loans were paid off and equity rose. This is what is expected from a successful SPV engaged in the

delivery of long-term PFI contracts. The interest cover showed the extent to which this SPV could afford the financing mix it had adopted. Over the years 2006 – 2010, the interest cover had bounced between 3.09% and 13.91%. This meant that only a small percentage of the profits had been used to service the loans taken on by CAE Aircrew Training Services plc. However, due to the high cost of sales in 2011 and therefore lower PBIT, the interest bill in this year turned out to be about 140% of PBIT. This meant that in 2011, this SPV was not able to fully service its loans and recorded a loss after interest and tax.

In summary, CAE Aircrew Training Services plc had been enjoying acceptable profitability levels. However, from 2009 onwards there had been a decline in its profitability due to increased costs. The short-term liquidity position enjoyed by this SPV was not ideal but still practical and the cash flow cycle did not seem to be under stress. The unaffordability of the financing mix in 2011 is a cause for concern. If the decline in profitability that began in 2009 continues, this SPV may struggle to service its loans.

### 5.9.8 Sub Case Study H: Project RAF Sentry E-3D

In July 2000, Quest Flight Training Ltd signed a 25 year PFI contract with the MoD for the provision of the E-3D Sentry Aircrew Training Service at RAF Waddington.[57] This SPV was setup as a 50/50 joint venture owned by Quadrant Group and Rockwell Collins.[58] This PFI is being managed from the MoD's side within the Defence Equipment and Support organisation by the Flight Simulation and Synthetic Trainers Integrated Project Team.[59] Under this PFI, Quest Flight Training Ltd is involved in the delivery of training service for RAF E-3D crews, maintenance of E-3D Dynamic Full Flight Simulator, provision of building maintenance and facilities management, provision of a training management information system and the supply of courseware for the instructors and students.[60] Using the unqualified financial statements of this SPV, the following financial ratios were calculated. These are shown in Table 5.24 below:

**Table 5.24: Key financial ratios of Quest Flight Training Ltd**

| **Quest Flight Training Ltd** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | 15.74 | 11.88 | 12.46 | 10.22 | 10.23 | 11.00 |
| PBIT/Sales % | 43.68 | 37.79 | 40.55 | 37.76 | 38.28 | 41.40 |
| Sales/Capital employed times | 0.36 | 0.31 | 0.31 | 0.27 | 0.27 | 0.27 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 2.67 | 2.45 | 2.35 | 2.16 | 2.19 | 1.98 |
| Liquid assets/current liabilities times | 2.67 | 2.45 | 2.35 | 2.16 | 2.19 | 1.98 |
| Trade debtors/sales x 365 days | 0.00 | 14.12 | 0.50 | 11.97 | 2.80 | 0.00 |
| Stocks/cost of sales x 365 days | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Trade creditors/purchases x 365 days | 81.75 | 53.72 | 116.69 | 217.72 | 91.02 | 77.73 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 5.02 | 6.56 | 7.41 | 7.98 | 8.15 | 8.07 |
| Interest cover % | 31.86 | 45.29 | 39.06 | 46.89 | 50.59 | 47.82 |

Source: Computed from the annual financial statements of Quest Flight Training Ltd 2006 -2011

The first set of the profitability ratios, the ROCE, shows the overall profitability of a company. In the case of Quest Flight Training Ltd, the ROCE had been positive over the last six years and it can be generally said that the ROCE had been on an uptrend since 2006. There had been dips in this ratio over this time period, but these can be said to be marginal. This meant that overall profitability of this SPV had been improving over the years. This gradual improvement in overall profitability could be explained by analysing the next two ratios of profitability. The profit margin over the last six years had been quite steady; it had ranged from 37% to 44%. Given that it had been a few years since this project went operational, achieving a steady profit margin was nothing out of the ordinary. The asset utilisation ratio revealed that it had been on a gradual increase from 0.27 times in 2006 to 0.36 times in 2011. This showed that sales levels had more or less remained steady over this time period. Thus from the profitability perspective, all looks progressively good. But how good were these profitability readings will be determined by analysing the working capital ratios.

Since this SPV does not hold stock, the current ratios and the liquid ratios are identical. A textbook definition of a good level for these ratios stands at 2.0 times for current ratio and 1.0 times for liquid ratio. With the exception of a value for the current ratio of less than 2.0 times in 2006, the current ratio over the next five years had not only been greater than 2.0 times but had also been steadily rising. The current assets of this company comprised of cash and thus it showed that this company, in the short-term, was sufficiently liquid enough to settle any short-term liabilities arising from suppliers and the bank. The liquid ratio had been in excess of the textbook definition and rising steadily over the entire six year period. Like the current ratio, the liquid ratio had the same liquidity picture of this company over this time period.

In 2006 and 2011, this SPV received all the monies owed to it by the MoD on this PFI contract. Additionally, over the years 2007 and 2010, the trade debtors' days had been quite low; it ranged from 0.5 days to just over two weeks. This goes to suggest that Quest Flight Training Ltd had been receiving the cash (it is owed by the MoD) on a timely basis. The zero level of trade debtors in the years 2006 and 2011 further supports this premise. No defined trend could be observed in the trade creditors' days as these had been zigzagging over the last six years. It is however important to note that the trade debtors' days had always been lower than the trade creditors' days. This goes to show that the cash flow cycle of this SPV had never been put under stress because this company collected cash from the MoD quicker than it had to make payments to its suppliers and the bank. Thus this company had been enjoying a comfortable liquidity position over this time.

The debt ratio displayed a steady downward trend from 2006 to 2011. Although the debt ratio had been dropping, it stood at 5.02 times in 2011. This was not unusual for an SPV involved in the delivery of PFI contracts since the latter are mainly funded through third party financiers. The good news was that the decline in the debt ratio was to be expected from a financially successful PFI contract. In other words, as a PFI contract runs its course, increased profitability should help an SPV to offload the loan it had taken from third party financiers, like a bank, and thus reducing its gearing. The interest cover for the past six years showed that as this SPV offloaded its debt burden, the proportion of

its profits before interest and tax had been coming down. The improvement in this SPV's profitability had further helped to bring the interest cover down. Thus the gearing ratios depict a progressively position for Quest Flight Training Ltd over this time period.

Overall then, it can be said that this company had been making good quality profits and was enjoying a comfortable gearing position over the years. These financial ratios reveal exactly what a financially successful SPV engaged in the delivery of PFI contract should display.

## 5.10 Analysing Defence Training PFIs

Based on the average of the key financial ratios for the eight SPVs engaged in the delivery of Defence PFIs relating to the category of Defence Training, the following (shown in Table 5.25) was computed:

**Table 5. 25: Average key financial ratios of the eight Defence Training PFIs**

| **AVERAGE TRAINING** | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| **Profitability** | | | | | | |
| Return on capital employed % | -450.85 | 373.63 | -197.04 | 1291.88 | -392.03 | 99.67 |
| PBIT/Sales % | 28.36 | 23.24 | 21.11 | 15.28 | 62.76 | 25.85 |
| Sales/Capital employed times | -14.36 | 9.05 | -63.09 | 38.64 | -20.92 | -1.41 |
| | | | | | | |
| **Working capital** | | | | | | |
| Current assets/current liabilities times | 1.11 | 1.17 | 1.24 | 1.07 | 1.02 | 1.00 |
| Liquid assets/current liabilities times | 1.11 | 1.16 | 1.23 | 1.06 | 1.01 | 0.98 |
| Trade debtors/sales x 365 days | 11.32 | 25.13 | 37.26 | 31.87 | 6.75 | 12.95 |
| Stock/cost of sales x 365 days | 2.20 | 2.22 | 3.24 | 3.98 | 3.68 | 5.63 |
| Creditors/purchases x 365 days | 33.24 | 39.27 | 43.64 | 48.72 | 30.91 | 30.63 |
| | | | | | | |
| **Gearing ratios** | | | | | | |
| Borrowing ratio times | 2.50 | -4.97 | -18.95 | 2.98 | 19.96 | 36.14 |
| Interest cover % | 36.66 | 22.57 | 73.79 | -7.63 | 75.35 | -49.12 |

Source: Author

The ROCE figures for the SPVs engaged in the delivery of Defence Training had had wide ranging levels. They had been positive as well as negative. The negative figures had been achieved because of the negative ROCE figures posted by Defence Training Services Ltd, Minerva Education Training Ltd, BAE HST Ltd and Defence Management Watchfield Ltd. Compared with the other two categories; the ROCE figures for this category had thus been the worst. On the other hand, the profit margins had been range bound between 20 and 30% except for the 62.76% recorded in 2007 (that was due to Fasttrax Ltd's PBIT about four times as large as its sales figures). The profit margins of the SPVs in this category were therefore the lowest compared to the profit margins of SPVs in the other two categories.

The current and liquidity ratios had more or less remained steady over the years at levels just above 1.0 time. This meant that the current and the liquid assets, if liquidated, would be just enough to settle short-term liabilities. Trade debtors' days had not exceeded 40 days. These were comparable to the trade debtors' days for SPVs in the other two categories. This meant that these companies were able to receive their payments from the MoD without too much of a delay. Additionally, trade creditors' days had been less than 50 days. This was worse than the trade creditors' days for the SPVs in the Defence Equipment category but better than those in the Defence Accommodation category. Nevertheless, over the last six years, the trade creditors' days had always been more than the trade debtors' days suggesting that SPVs in this category had not been experiencing cash flow cycle stress. The gearing ratios did not make much sense since a lot of them were negative.

Defence Training Services Ltd registered negative ROCEs in four out of the last six years because it had negative net assets in those years. Similarly Minerva Education Training Ltd also posted negative ROCEs throughout because it had negative net assets and negative equity. BAE HST Ltd posted negative ROCEs in four out of the six years because of losses incurred in 2007 and 2008 and negative assets in the years 2010 and 2011. But all throughout, BAE HST Ltd had had negative equity. Defence Management Watchfield Ltd posted negative ROCEs in three out of the last six years because it had negative assets in those years.

The negative assets meant that these companies had more liabilities than their assets and had thus become insolvent. Their financial future has thus become doubtful. SPVs with negative equity have a dire need of investment from their shareholders as they are failing to provide any returns to them. All of the four SPVs mentioned have serious financial problems and are a cause for concern.

## 5.11 Summary

In this chapter some conventional financial terms were redefined and incorporated in the build-up of a set of financial ratios covering the areas of profitability, short-term liquidity and working capital as well as gearing. These financial ratios were used to assess the financial robustness of various SPVs involved in Defence PFIs across the three categories of Defence PFIs: accommodation, equipment and training. The unqualified audited financial statements of the various SPVs were used to compute the three categories of financial ratios. An interpretation of each of these financial ratios (and any linkages with other ratios) for each SPV was carried out and any areas of concern with respect to the financial health of the SPVs were highlighted. Boxes 5.1 to 5.3 illustrate the overall performances of the SPVs in the three categories of Defence PFIs.

**Box 5. 1: Overall performance of Defence Accommodation PFIs**

| |
|---|
| ROCE had been positive throughout. The average profit margin over the last six years had ranged between 40 and 49%. Asset utilisation ratio had remained positive throughout except that in 2007 it went negative because of the dismal performance of RMPA Services Ltd. Current and liquid asset ratios had been above 2.0 and 1.0 times respectively and thus the SPVs had been enjoying comfortable short-term liquidity positions. Trade creditors' days had always been longer than trade debtors' days thus implying that cash flow cycles had not been under stress. The debt to equity ratios had been on a downtrend since 2009 and expectedly, interest cover had been declining since then. |

Source: Author

**Box 5. 2: Overall performance of Defence Equipment PFIs**

| |
|---|
| In this category, ROCE had been positive throughout with the exception of the year 2009 when a -122.2% was achieved. In spite of this, no SPV recorded any PBIT losses in any of the years. Profit margins of the SPVs ranged between 26 and 34%. With the exception of 2009, asset utilisation ratios over the six years had been positive and steady. The current ratios showed that the SPVs had not had enough current (or liquid) assets to settle their short-term liabilities in the last four years. The cash flow cycles of SPVs had been put under stress because of unfavourable trade debtors' and trade creditors' days. Debt to equity ratios had mostly been negative because of negative equity of SPVs. Interest cover had been greater than 100% in three out of the last six years thus resulting in SPVs incurring losses in those years. |

Source: Author

**Box 5. 3: Overall performance of Defence Training PFIs**

| |
|---|
| The ROCE ratios in this category had been negative and positive. Profit margins had been range bound between 20 and 30%. Asset utilisation ratios had also been positive and negative. The current and liquidity ratios had remained steady over the years at levels just above 1.0 time. The cash flow cycles had not been under stress since trade creditors' days had always been longer than trade debtors' days. Debt to equity ratios had been declining since 2006, ignoring the negative ratios recorded in 2009 and 2010 that were meaningless anyway. Interest cover had always been less than 100% and had been declining over the last six years. |

Source: Author

From the above the tables, the following comparisons can be made between the three categories of Defence PFIs. These are shown in Box 5.4.

**Box 5. 4: Comparisons between SPVs in the three categories**

| |
|---|
| In terms of profitability, SPVs in the accommodation category are the only ones that had recorded positive values over the last six years. This is followed by SPVs in the |

equipment category and lastly by the training category for which three out of the last six years, ROCE had been negative. Profit margins had been highest for SPVs in the accommodation category followed by the equipment category and the training category SPVs achieved the lowest profit margins. With the exception of the years 2008 and 2010, the asset utilisation ratios of SPVs in the accommodation category had always been the highest.

In terms of liquidity, the SPVs in the accommodation categories had the highest current (and liquid) asset ratio values. This meant that this category of SPVs had had the best liquidity positions over the last six years. This is followed by SPVs in the training category for which these ratios had never dropped less than 1.0 time. The SPVs in the equipment category had the worst values for these ratios although they were marginally worse off than those in the training category. Additionally, SPVs in the equipment category were the only ones with a value for these ratios at less than one. This implied that it was only the SPVs in the equipment category whose current (and liquid) assets were less than their short-term liabilities.

The cash flow cycles of SPVs in the accommodation and training category had never been put under stress. On the other hand, SPVs in the equipment category had been under stress because trade debtors' days had mostly been shorter than trade creditors' days. On average, SPVs in the accommodation category received monies owed to them by the MoD in 39.4 days; those in the equipment category received their monies in 29.1 days whilst SPVs in the training category received their monies in 20.88 days.

Debt to equity ratios had been declining for SPVs in the accommodation and training categories. They were meaningless in the case of SPVs in the equipment category since they had mostly been negative. In the case of accommodation and training SPVs, interest cover had never been more than 100%. This meant that the interest bill had always been lower than PBIT for these SPVs. However, interest cover for SPVs in the equipment category had crossed the 100% level in three out of the last six years.

Source: Author

The findings from the financial ratio analysis will form the basis for the chapter 6 conclusions on the financial robustness of the SPVs and in turn the effectiveness of the related Defence PFIs.

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# CHAPTER 6

## CONCLUSIONS AND POLICY RECOMMENDATIONS

### 6.1 Chapter Outline

PFIs in Defence have been in use for about two decades and ever since the MoD has been expanding their scope of application. Defence PFIs now span four categories.[1] Central to Defence PFIs is the formation of a special purpose vehicle, SPV, a limited liability company specifically created for the delivery of PFI contracts. The SPV acts as the key link between the MoD and the private sector organisations that provide the expertise in the delivery of PFIs. Any financial problems with the SPVs could hinder their ability to deliver on Defence PFIs. This would mean that the service/capability being delivered to the MoD could cease and therefore hinder the latter from achieving its objectives. A thorough analysis of the financial robustness of Defence PFIs from three out of the four categories (through the use of financial ratios) was carried out in the previous chapter. How financially robust have the SPVs been? Are there any SPVs and therefore any Defence PFI contracts whose future is doubtful? An attempt to answer these questions was made in the previous chapter. This last chapter brings this research to a close by drawing conclusions and making appropriate recommendations. This chapter begins by re-iterating the aim of this research and then producing a summary of the work carried out in the previous chapters. Conclusions would be drawn and appropriate policy recommendations would be made.

### 6.2 Aim and Objectives of this Study

The aim of this research, as set out in the first chapter, is to evaluate the financial robustness of SPVs involved in the delivery of Defence PFIs. The enabling objectives to realise this research aim are six fold: 1) evaluation of the different forms of customer-supplier relationships with an emphasis on partnering and public-private partnerships; 2) the detailed analysis of the anatomy of PFIs; 3) the examination of the concept of value for money; 4) tracing the major government policies that have catalysed the integration of the public and private sector over the last three decades; 5) the analysis of reforms in the Defence sector that have preceded the launch of Defence PFIs, redefinition of financial terms and their use in the computation of key financial ratios to

critically asses the financial robustness of SPVs in the delivery of Defence PFIs; and finally 6) drawing conclusions and proposing policy recommendations towards seeking better effectiveness from Defence PFIs.

## 6.3 Summary

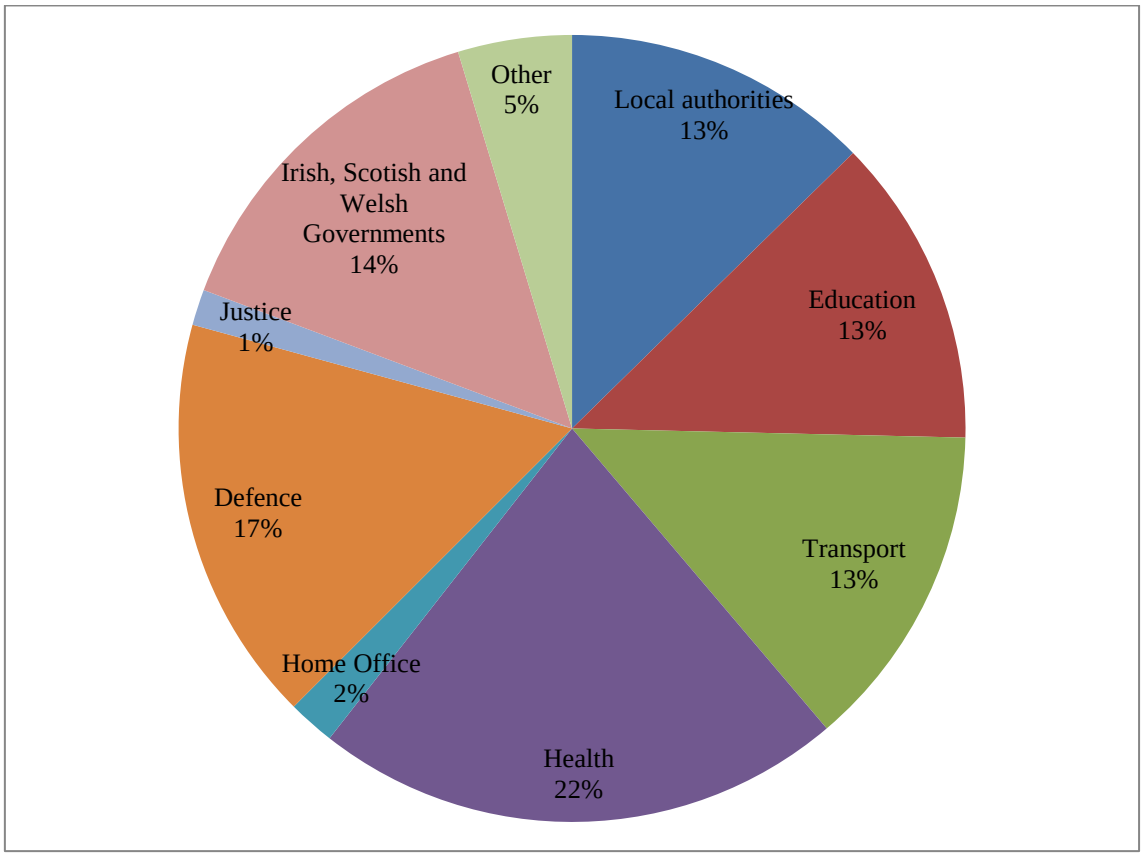
This research started by analysing the different types of customer-supplier relationships. On one end of the spectrum, these relationships can be adversarial where the interaction between customers and suppliers is at arm's length. This form of relationship is characterised by the lack of trust between two parties. Each party intends to exploit the other and therefore their main focus is the price of goods/services being exchanged. Conversely on the other end of the spectrum there exist partnership relationships that are based on trust. In such relationships there is long-term commitment from both customers and suppliers to achieve their mutually agreed objectives that are more than just about price. Environmental, transactional and organisational factors set public and private sectors apart. However, these differences between the two sectors can offer synergies when the two entities team up and work together in partnering relationships called public-private partnerships, PPPs.

One of the most important and widely used forms of PPPs is the PFI. It is defined as the financing of long-term infrastructure and public services based upon a non-recourse or limited recourse financial structure where project debt and equity used to finance the project are paid back from the cash flows generated by the project. A special purpose vehicle, SPV, (that is a limited liability company) is central to the delivery of PFI contracts. Risk transfer from the public to the private sector; entire funding by the private sector and therefore making it affordable for the public sector; and tapping private sector expertise are some of the many highlights of such a relationship between public and private sectors in the delivery of public services.

In the UK, investment in PFIs, as a means to deliver public services has been small but noticeable and stands at 4-16% of total investment in public services.[2]

In total more than 700 PFI projects having a capital value in excess of £54 billion have been executed across the public sector.[3] As seen in Table 6.1, the Department for Health accounts for by far the largest (in terms of value) number of PFIs signed up by any government department. This is followed by the Department the Ministry of Defence.

**Figure 6. 1: Signed PFIs (by value) across the public sector**




Source: Based on data from 1996 – 2013 taken from *GOV.UK* [online]. GOV.UK, 2013. Available at: https://www.gov.uk/government/publications/private-finance-initiative-projects-2013-summary-data [Accessed 1st October 2014].

One of the purported advantages of PFIs is the value for money they offer. Value for money, that is not a new concept, essentially is about the three Es: economy, efficiency and effectiveness. Economy relates to the resources input into a PFI project, efficiency relates to the outputs vs. inputs of a PFI and effectiveness relates to the achievement of objectives by the public sector. Metrics can be used to measure each of the three Es. Given the limited scope of this research, the last E, i.e. the effectiveness of PFIs will be measured by testing the financial robustness of the SPVs involved in the delivery of Defence PFIs. This will be done by computing key financial ratios from the unqualified

audited financial statements of the SPVs and based on them, the financial health of the SPVs would be analysed.

PFIs were not the first kind of engagement of the private sector with the public sector in the delivery of public services. Prior to the introduction of PFIs, changes had been taking place in the public sector as a result of the private sector's involvement. The role of government, in addition to its legislative one, has been the provision of a range of public services through several government (public sector) departments. The public sector departments are ultimately governed by the government of the time alongside a democratically elected parliament and a constitutional monarchy. Most government departments have no basis in law and thus changes in them can easily be done through executive decisions that eventually get reported in the parliament. Others such as Customs and Excise and the National Health Service have a legal foundation by way of an Act of Parliament. Either way, a government can make changes to both sets of public sector departments if it commands a majority in parliament.

In the 1970s, governments were involved in the provision of defence, social security, education, health and justice amongst other public services. However, the decade of the 70s was characterised by high levels of inflation; very low real-term increases in annual gross domestic product; and high levels of unemployment. Starting in 1979, a number of successive governments introduced milestone changes in the public sector to correct the troubling economic condition of the UK. One such bold step taken was the replacement of the cash-based accounting regime in public sector departments with accruals-based accounting that is extensively used in the private sector. The purpose of any accounting system is to produce cost/financial information for decision-making. Although cash accounting was simple and easy to understand, it suffered from serious drawbacks that caused it to produce inaccurate and incomplete financial information. This hindered the public sector from making appropriate financial decisions. The accruals accounting system, called Resource Accounting and Budgeting, RAB, set out to correct these weaknesses of the cash regime. It was introduced in the public sector in 1998/99 and ran alongside the cash regime for three years before the latter was finally

abandoned. Although RAB has provided the public sector with many benefits, it has introduced some challenges as well.

Another milestone in the public sector reform was the privatisation spree that started in the early 1980s. The nationalised industries' financial performance in the 1970s was found to be below that of industries in the private sector. It was so bad that these industries were struggling to keep themselves afloat. They were such a burden on the Public Sector Borrowing Requirement that occasionally funding available to state-owned industries had to be compromised for the government to achieve their macro-economic targets. Against this bleak performance by nationalised industries, the Thatcher government of 1979 initiated the privatisation programme as a means to better the public sector. By the end of 1991, half of the state-owned enterprises had been sold off to the private sector. Regulatory bodies were created as a means to ensure that customers of the privatised enterprises were not exploited. Golden shares were issued in the privatisation of some public enterprises to protect the country from any potential security threats. Privatisation attracted both acceptance and opposition. It surely reduced the size of the public sector; however whether it made the public sector more efficient is debatable. The exchequer's coffers were boosted through the proceeds from the sale of nationalised industries and later through tax receipts from the privatised enterprises. Additionally, most of the privatised enterprises posted greater profits than when they were under state control.

A third major reform in the public sector was the introduction of compulsory competitive tendering, CCT, in the public sector. The government in the 1980s believed that by subjecting public services to competition, the public sector could be made more effective. The introduction of CCT brought many advantages to the public sector. It strengthened management in public sector organisations and the quality of public services delivered was not compromised. A number of studies showed that cost savings were achieved in some cases as a result of CCT. Nevertheless, CCT did result in the hollowing out of the public sector thereby causing a reduction in the democratic accountability of the public sector.

Against the successes achieved in the three major public sector reforms since the late 1970s (that involved the engagement of the private sector in the delivery of public services), the governments' stance since the 1990s has been that the best way to deliver government objectives is through some integration of the public and private sectors. This led to the birth of PPPs of which PFIs are a significant chunk. It was intended that PFIs would enable the government to increase public sector investment (that was badly needed in the 1990s) without straining short-term public finances. Risk transfer from the public to the private sector was another advantage of the PFI route that was championed by the New Labour Government. By far, the most widely pronounced advantage of PFIs by successive government has been the value for money they offer. PFIs were first launched in 1992 but it was not until 1997, when the New Labour Government took office that more momentum was given to their use and scope.

One area where PFIs have been used extensively is the defence sector. The use of PFIs in defence is not the start of private sector involvement in the defence sector. Based on the public-private goods theory, defence is a public good/service. There are several advantages and disadvantages of the provision of defence by governments (public sector) as opposed to the private sector. In the UK, as far back as the late 19$^{th}$ century, the European arms race was the beginning of the role of the state in defence firms. The buyer-seller relationships increasingly changed the military's role to that of defining what weapons are needed and the defence firms' role to that of building those weapons. The government would subsidise defence firms' research and development, R&D, costs and thus became heavily involved in the finance and direction of military R&D in those firms. This trend of state intervention in defence firms increased during the Second World War. After this war, defence expenditures dropped and thus the defence industry was characterised by four types of defence companies[4] of which one was state-owned defence companies and the rest were private sector enterprises. The defence industry was largely in the hands of the private sector. State support for R&D in private sector defence firms continued in spite of incentives put forward by the MoD in the 1950s and 1960s. Most defence contracts were secured through negotiation – an arrangement where the government would fully reimburse private defence firms the costs they had incurred on the development and production of weapons and negotiate the profits earned

by them. In other words, defence contracts were cost-plus contracts. There were project delays and more importantly the cost overruns in defence projects that were borne by the MoD. This meant that the taxpayers' money was used to guarantee private sector profits. Public accountability of taxpayers' money meant that reforms in the defence sector were needed.

The reforms in the 1960s and 1970s led to the creation of a highly regulated defence procurement process that not only allowed a thorough investigation of the technical and financial risks of major defence projects but also permitted defence contractors to formulate more accurate time and cost estimates. Additionally, defence contractors were subject to the profit formula – a state determination of the level of profits they could earn. Unfortunately, these reforms failed to stop defence projects from delays and cost escalations. In the Thatcher era, the government's solution to the MoD's spiralling costs was greater involvement of the defence industry in the design process of defence equipment. Additionally, it persuaded the defence industry to share the burden of R&D costs with the MoD. It also introduced competition in the defence procurement process so as to bring costs down. This marked the end of the preferred supplier approach that had been in place previously. The Thatcher government also expanded the use of fixed-price contracts with the defence industry. Although budget savings were achieved as a result of these reforms, the kind of financial and technical stability that was expected was not realised.

Against this backdrop and given the increasing pressures on the MoD to keep defence capability at a defined level whilst facing reduced budgets and given the rapidly increasing defence equipment and personnel costs, alternative ways of providing defence that offer better value for money were sought. One solution was the use of PFIs in the delivery of defence. The MoD firmly subscribes to the view that when PFIs are used in the right way, they offer many advantages to not only the MoD but the private sector as well. Most importantly, the MoD believes that Defence PFIs achieve better value for money compared to the conventional procurement option. A study by the MoD Private Finance Unit revealed that Defence PFIs had lower incidences of cost and time overruns, although some of them ended up in complete disaster. There is no

conclusive evidence to suggest that PFIs are cheaper than traditional defence procurement options. Additionally, the long-term nature of PFIs adds to their inflexibility.

In addition to the advantages of Defence PFIs (as claimed by the MoD) and their challenges, how effective are they? The effectiveness of Defence PFIs was assessed by evaluating the financial robustness of the SPVs engaged in their delivery. A number of financial terms were analysed and redefined. These were then used in the definition of the key financial ratios to be calculated. Using the unqualified audited financial statements of the SPVs engaged in the delivery of Defence PFIs, a number of key financial ratios were used to assess their financial strengths and weaknesses across the three categories – accommodation, equipment and training. The results from each category were averaged out to analyse the financial robustness of Defence PFIs from each category. In the next section, contextual evaluations would be drawn based on chapters 2 – 4 and more specific conclusions would be drawn based on the findings in chapter 5.

## 6.4 Contextual Evaluation

The following contextual evaluations are drawn from this research:

Partnering relationships offer several advantages to both customers and suppliers including reduced cost, reduced levels of inventory, increased quality of outputs, enhanced security of supplies and reduced product development times (section 2.1.2). Partnering relationships are best suited for markets that have few reliable suppliers; where goods and services being procured are technically advanced such that cost of switching suppliers is prohibitively high; and where the goods and services procured are vital to the operations of both the customer and supplier (section 2.1.2). The most important factor in building successful customer-supplier partnering relationship is trust (section 2.1.2).

Although public and private sectors are different, they can potentially complement each other (section 2.4). The Special Purpose Vehicle, SPV, is the key link between a public

sector body and the private sector in a PFI scheme. The success of a PFI scheme rests to a large extent on the success of its SPV (section 2.6.6). PFIs allow public sector bodies to invest in public sector assets and services affordably because the huge upfront costs involved are borne by the private sector whilst the public sector body is only required to pay a small annual unitary charge (section 2.6.3). Since PFIs are mainly financed through project finance via third party financiers, they are highly geared entities (section 2.6.7). The accounting treatment of PFIs has in the past offered an advantage to the public sector in that PFI assets and liabilities have been off their books. This has a positive effect on the debt to gross domestic product ratio of economies (section 2.6.8). Limited risk transfer from the public to the private sector in the form of cost and time overruns is possible. But it is the financial risks associated with time and cost overruns that gets transferred from the public to the private sector. The actual risk of not having a capability ready to deliver public services is essentially borne by the public sector (section 2.6.9). Due to the long-term nature of PFIs, the public sector is offered limited flexibility in terms of making significant changes to the PFI contracts. This is most relevant when a public service being offered through PFI has to be curtailed dramatically to meet the changing needs of the public (section 2.6.10).

Although more than 700 PFIs having a capital value of more than £54 billion have been signed and are in operation, investment in PFI schemes by the public sector is still small compared to the overall public sector investments (section 2.7). Value for money is comprised of the three Es – economy, efficiency and effectiveness. Economy relates to the resources (in terms of money, manpower, machine time) input into a PFI scheme; efficiency relates to the ratio of outputs to inputs; and effectiveness relates to the outputs of PFIs meeting the objectives of the PFIs (section 2.9). The value for money properties of PFI can be assessed using different metrics (section 2.10).

The troubling economic picture in the 1970s prompted the Thatcher government of 1979 to initiate public sector reforms so as to improve the UK's economic health (section 3.2). It was believed by the Thatcher government and successor governments that enabling the private sector to shoulder some responsibility in the delivery of public

services is the way to make the latter more efficient to cure the ills of the economy (section 3.4).

Resource accounting and budgeting, RAB, has enabled public sector departments in better managing their capital assets, better scheduling of expenditure and providing more reliable data on the value of capital assets and their contribution to service delivery. Additionally, RAB has enabled the comparison of financial performance between public sector departments and between public sector departments and the private sector. However, RAB has also introduced potential problems as well such as the difficulty in the interpretation of public sector accounts; the potential for making subjective decisions when applying accounting standards; and driving wrong behaviours with respect to capital assets (section 3.3.5). Privatisation attracted both acceptance and opposition. It is inconclusive whether the privatised firms employed resources more effectively than when they were under state ownership. Nevertheless, the pre-tax profits of privatised firms were found to be higher than when they were nationalised (section 3.4.5). Compulsory competitive tendering, CCT, did not cause the quality of public services rendered to deteriorate but it did hollow out the public sector and therefore reduced the democratic accountability of the public sector to the public (section 3.5.2). In financial terms, CCT did bring about cost savings (section 3.5.4). Therefore the major reforms, RAB, privatisation and CCT, that brought private sector to engage with the public sector in the delivery of public services did produce some positive results although they did introduce challenges and problems as well.

Defence is a public good; although it is inconclusive whether it is more advantageous for it to be provided by the government or by the private sector (section 4.3 and 4.4). In the UK, the extent of private sector involvement in the delivery of defence has varied in the past (section 4.5). Cost and time overruns of defence projects were the most common problems with the defence sector in the 1960s and 1970s (section 4.5 and 4.6). The reforms made in those two decades resulted in little success (section 4.6). The Thatcher government made more radical reforms in the 1980s that allowed the government to get a good deal for its defence projects but where cost and time overruns did not fade away completely (section 4.7 and 4.8). In the 1990s, the MoD adopted the

use of PFIs as a means to deliver defence projects (section 4.9). The MoD cites value for money as the most important advantage of using PFI in defence (section 4.10). The incidence of cost and time overruns has dropped in PFI projects although it is inconclusive whether defence PFIs are cheaper than the traditional procurement method. Although the financial elements of cost and time overruns are passed on to the private sector, essentially the risk of not having a defence project ready to deliver on time is still borne by the MoD. Additionally, the long-term nature of PFIs makes them inflexible to changes in the security and defence environment. Thus if a particular defence capability is no longer required under a PFI or a significantly different one is required because of changes in the threat faced by the UK, making changes to PFI contracts is difficult, if not impossible (section 4.11).

## 6.5 Conclusions

The following conclusions are drawn:

Current assets such as debtors and prepayments are actually weak current assets because they are under the control of third parties. These have to be excluded from the list of current assets so that a more real and true picture of the level of assets owned by an SPV can be determined (section 5.2.1). Operating leases and financial commitments under current accounting standards are not recognised as liabilities. However, from a lessee's point of view, these represent future payments that have to be made if the lessor or the other party (in the case of financial commitments) honours their part of the agreement. As such they have to be included in the list of liabilities of the lessee since if all goes well, the latter will have to make those payments (section 5.2.2). Sales should be recognised based on the cash received in respect of them from customers (section 5.2.3).

The profit margins are highest of those SPVs engaged in the delivery of Defence PFIs relating to the category of accommodation. This is followed by SPVs belonging to the category of Defence equipment and lastly by SPVs of Defence training (section 5.11). Table 6.1 shows a summary of the conclusions with respect to the three case studies: defence accommodation, defence equipment and defence training PFIs.

**Table 6. 1: Summary of conclusions across the three case studies**

| Category | Conclusions |
|---|---|
| Defence Accommodation PFIs | • 6 out of the 8 SPVs do not show any cause for concern<br>• SPVs for Project Colchester and Project Devonport Support Services ARMADA have serious financial difficulties |
| Defence Equipment PFIs | • SPV for Project C Vehicles shows very little cause for concern<br>• The other 4 SPVs have serious financial problems |
| Defence Training PFIs | • Only the SPV for Project Medium Support Helicopter Aircrew Training Facility has little financial problems<br>• The other 7 SPVs have serious financial problems |

Source: Author

### 6.5.1 Defence Accommodation PFIs

In the category of Defence accommodation, the SPV for Project Colchester had been incurring losses after interest and tax in the last 5 out of the 6 years. With called-up share capital of £50,000, these losses were so great as to turn the equity of this company to negative. Negative equity meant that this company was providing no returns to its shareholders and was in dire need of further investment from the shareholders. Although the directors of this company believed it to be a going concern, it was difficult to imagine this company would progress into the future without further problems. Additionally, Falcon Support Services Ltd, the SPV for Project Devonport Support Services ARMADA, had produced negative profits before interest and tax, PBIT, in three out of the six years and had produced losses after interest and tax in the last four out of six years. These losses had been so great that they had turned positive equity into negative. Therefore, this company had not been providing returns to shareholders for most of the past six years. The negative equity casts a doubt about the future financial existence of this company without injection of funds from its shareholders. All the other SPVs do not show any cause for concern.

### 6.5.2 Defence Equipment PFIs

In the category of Defence equipment, there seems to be little wrong with ALC FMC Ltd, the SPV for Project C Vehicles, except for the huge loss incurred in 2009 that caused its ROCE to drop to -635.67%. This was the only year, PBIT and therefore ROCE was negative. Taking this to be a year of exception, this company had no obvious problems. Genistics Ltd, the SPV for Project Field Electrical Power Supply, had been posting progressively larger ROCE over the last 6 years. However, in the last 5 out of 6 years, this company had been producing losses after interest and tax that had caused equity to become negative in years 2007 – 2011. Therefore, this company had not been providing returns to shareholders for most of the past six years. The negative equity casts a doubt about the future financial existence of this company without injection of funds from its shareholders.

Fasttrax Ltd, the SPV for Project Heavy Equipment Transporter, had been posting net losses after interest and tax for the last six years. These losses were so great that the paid share capital of £1 million was not large enough to absorb them and thus this company had had negative equity over the period under study. Therefore, this company had not been providing returns to shareholders for most of the past six years. The negative equity casts a doubt about the future financial existence of this company without injection of funds from its shareholders.

Alert Communications Ltd, the SPV for Project Naval Communications, had also been suffering from net losses after interest and tax over the last six years. The accumulated losses at the start of 2006 and the net losses (after interest and tax) recorded in the years 2006 – 2009 were responsible for the negative equity throughout the period under study. The net profit (after interest and tax) posted in the years 2010 and 2011 were not large enough to neutralise the accumulated losses at the start of 2010. Therefore, this company had not been providing returns to shareholders for most of the past six years. The negative equity casts a doubt about the future financial existence of this company without injection of funds from its shareholders.

Paradigm Secure Communications Ltd, the SPV for Project Skynet, had been suffering from low liquidity positions over the last six years with the exception of 2007 and 2009. Additionally, since this company was slow at recovering monies from the MoD but had to make payments to its trade creditors faster, its working capital cycle could be put under strain if cash levels dwindle. This company's equity had been negative in four out of the last six years because of large accumulated losses at the start of 2006 and subsequent net losses (after interest and tax) in the years 2009 and 2010. If net profits (after interest and tax) are not made, this SPV's financial future could become weak.

### 6.5.3 Defence Training PFIs

In this category, Defence Training Services Ltd, the SPV for Project Army Foundation College had posted a negative PBIT in five out of the last six years because net assets up until 2010 had been negative. Negative net assets meant that this company was insolvent in the long-term – its liabilities were more than its assets. And therefore the financial existence of this company is doubtful.

FAST Training Services Ltd, the SPV for Project Astute Class Training Services, had been generating positive ROCEs over the years. However, the net losses (after interest and tax) generated in the years 2008, 2009 and 2011 had caused equity to be negative in the years 2008 – 2011. Therefore, this company had not been providing returns to shareholders for most of the past six years. The negative equity casts a doubt about the future financial existence of this company without injection of funds from its shareholders.

Minerva Education and Training Ltd, the SPV for Project Defence Sixth Form College, had been producing negative ROCEs over the period under study. In 2011, its ROCE reached -3,442.70%. The negative ROCE and the mainly negative borrowing to equity ratios was to the fact that from 2006 – 2011, this company had had negative net assets and from 2006 to 2010, this company had had negative equity. The negative net assets meant that this company was insolvent in the long term – its liabilities were more than its assets. And therefore the financial existence of this company was doubtful. The negative equity means that, this company has not been providing returns to shareholders

for most of the past six years. The negative equity casts a doubt about the future financial existence of this company without injection of funds from its shareholders. Therefore, this SPV's financial existence in the future is doubtful because of two reasons – negative net assets and negative equity.

Defence Management (Watchfield) Ltd, the SPV for Project Joint Services Command and Staff College, had had positive PBITs and net profits (after interest and tax) over the last six years. However, due to the negative net assets in years 2007, 2009 and 2011, ROCE in these years had turned out to be positive. Thus although the profitability of this company did not pose any concern, the negative net assets meant that this company was insolvent in the longer term – its liabilities were more than its assets. And therefore the financial existence of this company is doubtful.

The SPV for Project HAWK Simulator, BAE Systems (Hawk Synthetic Training) Ltd, had been in a poor financial state. This is because it had had negative equity in the last six years because it had a large accumulated loss at the start of 2006, and it made net losses (after interest and tax) in the years 2007 – 2010 and although it made net profits in the years 2006 and 2011, these were not large enough to absorb the accumulated losses. Additionally, in the years 2010 and 2011, this company ended up with negative assets. The negative assets over the last two years, and the negative equity throughout the period of study, cast serious doubts about the financial existence of this company.

CAE Aircrew Training Ltd, the SPV for Project Medium Support Helicopter Aircrew Training Facility, had been profitable throughout although its ROCE has started dropping from 2009 onwards. Whether this drop continues to form a downtrend will be confirmed by its performance in the years after 2011. Its borrowing to equity ratio had been low, that meant it had been lowly geared. The interest cover in 2011 shot up to more than 100% and but this did not result in a net loss (after interest and tax). No other problems with this company were observed.

Quest Flight Training Ltd, the SPV for RAF Sentry E-3D had been displaying what a financially successful SPV engaged in the delivery of a PFI contract should display.

Those SPV identified above whose financial existence in the future has become doubtful are a serious cause for concern with respect to the MoD since it could mean the different capabilities those SPVs are offering may cease to exist.

## 6.6 Policy Recommendations

The scope of this research was limited to the financial analysis of SPVs used in Defence PFIs over the period 2006 – 2011. In 2012, the government embarked on a review of PFIs across the public sector (including defence). The review found that PFIs suffer from certain weaknesses. These weaknesses and the reforms the government intends to implement resulting in Private Finance 2 (PF2), the successor of PFIs, are explained in Appendix C.

Nonetheless, SPVs play a very important role in the delivery of Defence PFIs. They form the link between the MoD and the private sector. It is the SPV that enters into a PFI contract with the MoD. Additionally, it is SPVs that take on loans from banks to enable them to deliver on PFI contracts. Thus it is the responsibility SPVs to ensure that PFI contracts achieve the desired results. Essentially, the MoD relies on the SPV to produce outputs as specified by them. If the SPV encounters financial problems in delivering the PFI contract, the direct consequence would be that the capability/service being provided to the MoD could be affected. Thus it is pertinent, at least from the MoD's point of view to ensure that SPVs have sound financial health so that they can continue to provide and the MoD continues to receive services under the PFI contract.

The main focus of this research was the assessment of the financial robustness of the SPVs that are involved in the delivery of Defence PFIs. The conclusions have shown that not all SPVs are in good financial health. Almost half of the SPVs that were examined were found to have serious financial problems. These problems ranged from incurring net losses after interest and tax to negative assets top negative equity. All these financial problems could potentially bring those SPVs to their knees. This could affect the services being received by the MoD through them.

To avert such Defence PFI disasters, the following policy recommendations are offered:

- It is important that the MoD and more specifically, the MoD Private Finance Unit (PFU), maintains a continuous check on the financial health of SPVs engaged in the delivery of Defence PFIs through the use of financial ratio analysis as conducted in this research. This will enable the PFU to discover any potential financial weaknesses in SPVs. Any SPVs identified as financially weak should be notified by the PFU to the private sector. Given that PFIs are based on partnering relationships, that are in essence long-term relationships wherein both parties mutually work with each other so that their objectives are realised, mutually agreed contingency plans should be worked out to fortify the financially weak SPVs. It is in the interest of the SPV that it remedies its financial problems because that would ensure that it makes a profit from the PFI contract thereby achieving one of its important objectives. It is important for the MoD that financially weak SPVs take corrective actions to ensure that the services being received under PFIs are not disturbed and thus the MoD's capabilities are not adversely affected.

- The MoD should seek additional funds from HM Treasury (on top of each year's defence budget) and reserve them as contingency funds. This would ensure that in the event a SPV faces financial difficulties and there arises the prospect of the SPV going bankrupt and therefore ceasing to offer defence capabilities/services to the MoD, the latter could use the contingency funds to temporarily prop up the financially weak SPV so that continuity in the provision of services to the MoD is maintained. This becomes all the more important in the case of SPVs involved in the delivery of Defence PFIs that are closer to the frontline because these services (rendered through PFIs) would attain critical importance in times of war.

  Additionally, with respect to those Defence PFIs that are closer to the frontline, the MoD should train its own staff to operate those Defence PFIs, so that if the private sector backs out of Defence PFI contracts (for financial or other reasons), the continuity of Defence services sponsored by PFIs is not compromised.

- It was cited earlier in this research that SPVs are in most cases subsidiaries of holding companies. When SPVs are in financial difficulties, one of the options in resolving their financial troubles is to seek help from the parent companies. This means that the financial muscle of the holding companies is important in ensuring that SPVs' financial problems are rectified and the services under PFI contracts continue to be received by the MoD. Therefore, the MoD should also examine the financial robustness of the holding companies of SPVs and any impending weaknesses be communicated to SPVs and their holding companies so that they could prepare for the worst and in this way defence capabilities provided through PFIs are not affected.

- Conclusions drawn from this research and the PFI review conducted in 2011 by the government shows that not all Defence PFIs perform well. Some SPVs have been found to be financially weak and in the worst case scenario could go bust. This means that PFIs cannot be taken to be a fully safe means of providing defence services to the MoD. Hence the MoD should be more careful in the future when deciding whether or not a particular defence service is to be acquired using PFIs. The consequences of PFI failures should be examined as well as the value for money attractiveness of PFI contracts.

- Interest rates since 2009 have been remarkably low. Indications from the Bank of England show that they will not remain at that low level indefinitely. Instead, the Bank of England has been hinting that interest rates will rise sooner rather than later. When this happens, interest payments on PFI loans will go up. These payments are not solely the burden of SPVs. The government will share some of this burden through increased unitary charges. Thus it is important that the government starts to set aside additional funding for the hikes in unitary charge payments in the future.

## 6.7 Areas for Further Research

Following the conclusions and policy recommendations cited above, areas of further research are highlighted below (all of which could be carried out in the short to medium term):

- This research focused on the financial robustness of SPVs involved in the delivery of Defence PFIs. It revealed that not all SPVs are financially strong. The government has signed more than 650 non-Defence PFIs since the mid-1990s. Services provided through non-Defence PFIs may not be as critical as those provided by frontline Defence PFIs, but nonetheless, failure of SPVs to honour PFI contracts would cause inconvenience to the public (who is the ultimate user of these services) and would not represent good value for taxpayers' money. Thus it is worth researching the state of financial robustness of SPVs so that financially weak SPVs are highlighted and contingency plans put in place so that services being received through SPVs are not compromised.

- Across the globe, the UK was the first country to procure public services through PFIs. Many other countries including Japan, Malaysia and Australia adopted the UK PFI model to assist in the delivery of public services. To better appreciate the financial status of SPVs engaged in the delivery of UK PFI contracts, it would be worth comparing the financial strengths and weaknesses of SPVs in these other countries. The accounting standards being followed in these countries are different from the UK. Hence comparison of the financial well-being of UK SPVs with foreign SPVs will only be possible after the financial statements of non-UK SPVs are restated in UK accounting standards form.

- This research stated that the MoD PFU carried out a survey in 2005 of Defence PFIs which covered areas including time and cost overruns, performance and, flexibility. There has been no Defence-specific review of PFIs over the last decade. Thus another area for further research would be a detailed examination of PFIs (along the lines of the survey conducted in 2005) to ascertain how

Defence PFIs have performed since their inception approximately 25 years ago. This research may reveal how Defence PFIs have fared since the last review and, whether and how any problems identified in the 2005 review have been corrected.

- The financial crisis of 2007/08 has changed third party finance industry (that includes banks and capital markets) in many ways. For instance, banks have been bailed out by the government (using taxpayers' money) and the Bank of England has implemented quantitative easing (that involved the creation of money) to help improve the flow of funds from creditors to debtors. Additionally, interest rates which are currently at their lowest, are expected to rise in the future. Based on the changing economic climate, there is a need to research how the appetite and affordability of and return on future PFI contracts is affected. This research will help reveal the shape of PFIs in the UK in the long-term.

- An examination of the financial robustness of SPVs that were researched should be undertaken in approximately five to six years' time using the same financial ratios and definitions. This would help reveal how these SPVs have fared since 2011. More specifically, it would also disclose whether the financially weak SPVs (discovered in this thesis) failed and if not, what measures, if any, were taken to strengthen their financial power. This would identify lessons that could be applied to financially weak SPVs of other Defence or non-Defence PFIs.

## References

[1] National Audit Office. *Allocation and management of risk in MoD PFI projects* [online]. Available at: http://www.nao.org.uk/wp-content/uploads/2008/10/0708343.pdf [Accessed 20 December 2013].

[2] Based on data from 1996 – 2013 taken from *GOV.UK* [online]. GOV.UK, 2013. Available at: https://www.gov.uk/government/publications/private-finance-initiative-projects-2013-summary-data [Accessed 1st October 2014].

[3] HM Treasury. *PFI: Strengthening Long-term Partnerships* [online]. HM Treasury, 2006. Available at: http://www.hm-treasury.gov.uk/media/1E1/33/bud06_pfi_618.pdf [Accessed 5 May 2008].

[4] These are detailed in Chapter 4, section 4.5

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# APPENDIX A

## 7.1 Profitability Ratios

The first and most important financial ratio that will be studied (with respect to the SPVs) under the category of profitability ratios is that which measures the overall return generated by SPVs as compared to funds invested in them– the Return on Capital Employed (ROCE). This is computed as shown in Box 7.1

**Box 7. 1: ROCE**

ROCE = PBIT / Capital employed x 100%
where
PBIT is profit before interest and tax
and;
Capital employed is the sum of long term debt and equity

Source: Author

The profit figure will be that which measures sales as described in section 5.2.3. The elements of interest and taxation both are such that they are not under the direct influence of a SPV. Interest is the return to third party financiers – it is independent of how much profit a SPV actually makes. On the other hand, taxation is imposed by the government and its rate could change from year to year irrespective of the level of profits made by a SPV. Therefore, using the net profit figure would not measure a return generated by a SPV which is a mix of the latter's activities and external independent influences. However, PBIT, which excludes both interest and tax, reflects the actual return generated by a SPV and therefore it is preferred in this computation.

Capital employed is the sum of all the long term funds invested in a SPV. SPVs are funded from two sources: the shareholders (the owners) of the SPV and third party financiers (like banks) who provide the lion's share of funds required to implement

Defence PFI projects. Thus the ROCE measures the return generated by (which can solely be attributed to the activities of the SPV) with respect to the funds in a SPV expressed as a percentage. The greater the value of ROCE the better, as it would suggest higher levels of profitability. However, to gain insight into the factors that lead to a high or low ROCE, two other ratios will be computed and studied. These are shown in Box 7.2:

**Box 7. 2: Profit margin and Asset utilisation ratio**

Profit margin = PBIT / Sales x 100%

and

Asset utilisation ratio = Sales / Capital employed times

where capital employed is the sum of equity and long term debt

Source: Author

The profit margin shows the level of profit achieved for every £1 of sales. Here, the higher the value of this ratio the better. The PBIT and the sales figure to be used for computing this ratio will measure sales as described in section 5.2.3. The asset utilisation ratio measures the extent to which the assets of SPVs are being used to produce sales; a high asset utilisation ratio would indicate better utilisation of SPV's assets whilst a low ratio means that a SPV is overcapitalised and is not making good use of the funds invested in it.

## 7.2 Liquidity and Working Capital Ratios

The short term liquidity position of SPVs will be assessed by calculating the current ratio given in Box 7.3:

**Box 7. 3: Current Ratio**

| |
|---|
| Current ratio = current assets / current liabilities times |

Source: Author

It sometimes suggested that ideal value for this ratio is 2.0 times.[1] A more stringent short term liquidity test will be studied by computing the acid test ratio as shown in Box 7.4:

**Box 7. 4: Acid Test Ratio**

| |
|---|
| Acid test ratio = Current assets – stocks / Current liabilities times |

Source: Author

Of the current assets, the least liquid assets are stocks whilst the most liquid asset is cash. This stringent test of liquidity measures the liquidity of SPVs based on the assumption that stocks (within current assets) are difficult to be converted into cash. Thus by comparing current assets excluding stocks to current liabilities, results in a tighter measure of short term liquidity. Here again, a textbook definition of a good acid test ratio should be 1 times.[2] In these two calculations, the figure to be used for current assets will exclude weak assets (as described in section 5.2.1) and the figure to be used for current liabilities will include operating lease payment commitments and other financial commitments (for reasons as discussed in section 5.2.2).

The working capital cycle lies at the heart of every SPV and it comprises of four main elements: stocks, trade debtors, cash, and trade creditors. Movements in the working capital cycle (i.e. the conversion of stocks into trade debtors and then into cash to pay the trade creditors) creates income (sales) and expenditures and hence profits in SPVs. The financial health of the components of the working capital cycle is crucial to the

financial health of SPVs in the short term. To examine this health of the working capital cycle, three ratios will be calculated. The first is the stock days' ratio which is given in Box 7.5:

**Box 7. 5: Stock Days**

| |
|---|
| Stock days = Stocks / cost of sales x 365 days |

Source: Author

This gives the average number of days that stocks remain in a SPV during a year. The longer the stock days the longer it takes for a SPV to move stock out which in turn means that the lengthier the duration of the working capital cycle. The more time stock spends in a SPV, the more stock related costs (such as insurance, pilferage, warehousing) are incurred although it becomes less likely that customer demand will not be met.

The second ratio is the trade debtors' days that is calculated as shown in Box 7.6:

**Box 7. 6: Trade Debtors' Days**

| |
|---|
| Trade debtor days = Trade debtors / Sales x 365 days |

Source: Author

This ratio shows the number of days trade debtors of a SPV take to pay on their accounts in full. The lower the trade debtor days, the shorter the working capital cycle and therefore the more potential for a SPV to sell more and make more profit.

The third ratio is the trade creditors' days that is shown in Box 7.7:

**Box 7. 7: Trade Creditors' Days**

| |
|---|
| Trade creditor days = Trade creditors / Cost of sales x 365 days. |

Source: Author

This gives the number of days a SPV takes to clear its bills with its trade suppliers. Although the longer trade creditors days the better, since it allows a SPV more time to convert its stocks into trade debtors and eventually into cash, but the drawback is that it could adversely affect the relationship between a SPV and its trade suppliers.

## 7.3 Gearing Ratios

This last category of ratios will focus on the funding mix of SPVs. A SPV is funded both from the shareholders (in the form of equity) and third party financiers (such as banks). The borrowing ratio given in Box 7.8:

**Box 7. 8: Borrowing Ratio**

| |
|---|
| Borrowing ratio = Total borrowings / equity times |

Source: Author

This shows the proportion of funds invested in a SPV coming from banks to those coming in from its shareholders. There are advantages and disadvantages of debt capital. One of the main plus points of borrowing from banks is that any interest charged is a tax deductible expense whereas dividends (which is the return given to shareholders) is not. But on the other hand, interest payments are compulsory even if a SPV does not make enough money to cover them; however, dividends are paid out at the discretion of the directors of SPVs. Thus there is no strict value that this borrowing ratio must meet. What is more important is that whether a SPV can afford its funding

mix of debt and equity. This is assessed using another ratio called the interest cover as shown in Box 7.9:

**Box 7. 9: Interest Cover**

| |
|---|
| Interest cover = Interest payable / PBIT x 100% |

Source: Author

This ratio shows the portion of PBIT which is paid out to third party financiers such as banks before anything is paid to the shareholders and the taxman. The higher this ratio gets, the less will be available to paid out as dividends to shareholders and thus making it difficult to please them and vice versa.

## References

[1] International Financial Publishing. *ACCA Paper 2.5 Financial Reporting UK Stream*. International Financial Publishing, 2006: Guildford, Surrey. Page 306.

[2] International Financial Publishing. *ACCA Paper 2.5 Financial Reporting UK Stream*. International Financial Publishing, 2006: Guildford, Surrey. Page 307.

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## APPENDIX B

**Table 8. 1 List of all Defence PFIs and reasons why some were not studied in this research**

| **Defence PFI Project** | **Reasons why not studied** |
|---|---|
| **ACCOMMODATION** | |
| Allenby/Connaught | Studied |
| Bristol, Bath and Portsmouth Family Married Quarters | Accounts prepared under IFRS |
| Central Scotland Family Quarters (HQ) | Studied |
| Colchester | Studied |
| Corsham | Started operations in 2009 |
| Devonport Support Services - ARMADA | Studied |
| Main Building Refurbishment | Studied |
| Northwood Headquarters | Started operations in 2011 |
| Portsmouth Housing 2 | Studied |
| RAF Cosford and Shawbury Family Quarters | Does not use SPV for operations |
| RAF Lossiemouth Family Quarters | Studied |
| Wattisham Married Quarters | Studied |
| Yeovilton Family Quarters | Does not use SPV for operations |
| | |
| **EQUIPMENT** | |
| C Vehicles | Studied |
| Defence Fixed Telecommunications Service (DFTS) | Does not use SPV for operations |
| Field Electrical Power Supplies (FEPS) | Studied |
| Heavy Equipment Transporters (HET) | Studied |
| Marine Support to Range & Aircrew Services | Does not use SPV for operations |

| | |
|---|---|
| Material Handling Equipment (MHE) - (Follow on) | Does not use SPV for operations |
| Naval Communications | Studied |
| Skynet 5 | Studied |
| Future Strategic Tanker Aircraft (FSTA) | Started operations in 2008 |
| Provision of Marine Services (PMS) | Started operations in 2007 |
| Strategic Sealift Service | Accounts prepared under IFRS |
| Tri Service Materials Handling Service | Does not use SPV for operations |
| | |
| **TRAINING** | |
| Army Foundation College | Studied |
| ASTUTE Class Training Services | Studied |
| Attack Helicopters Training | Studied |
| Defence Sixth Form College (DSFC) | Studied |
| Hawk Simulator | Studied |
| Joint Services Command and Staff College | Studied |
| Lynx Aircrew Training | Accounts prepared under IFRS |
| Medium Support Helicopter Aircrew Training Facility (MSHATF) | Studied |
| NRTA Fire Fighting Training Units (FFTU) | Does not use SPV for operations |
| RAF Sentry E3D Aircrew | Studied |
| Tornado GR4 Simulator | Accounts prepared under IFRS |
| UKMFTS - Advanced Jet Trainer Ground Based Training Service (GBTE) | Started operations in 2009 |
| | |
| **OTHER** | |
| MOD-wide Water and Waste Water Project (Aquatrine) - Package A | This belongs to ‘Other’ category |
| MOD-wide Water and Wastewater (Project Aquatrine) - Package B | This belongs to ‘Other’ category |

| | |
|---|---|
| MOD-wide Water and Wastewater (Project Aquatrine) - Package C | This belongs to ‘Other’ category |
| RAF Fylingdales (Power) | This belongs to ‘Other’ category |
| RAF Lyneham Sewerage | This belongs to ‘Other’ category |
| Tidworth Water & Sewerage | This belongs to ‘Other’ category |
| TAFMIS (IT) | This belongs to ‘Other’ category |

Source: Author and taken from *GOV.UK. PFI projects: 2013 Summary data* [online]. Available at: https://www.gov.uk/government/publications/private-finance-initiative-projects-2013-summary-data [Accessed 9th October 2014].

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## APPENDIX C

### 9.0 Private Finance 2

In 2011, the government embarked on a fundamental reassessment of PFIs. The review found some significant weaknesses of the PFI model.[1] Experience demonstrated that the PFI procurement process has been too slow for both the private and the public sector resulting in increased costs and reduced value for money for the taxpayer. Additionally, the inflexibility of PFI contracts has made alterations to public sector's service requirements difficult. Moreover, inappropriate risk transfer from the public to the private sector has resulted in a higher risk premium being charged to the public sector. It was also discovered that equity investors in PFI contracts have made windfall gains thereby raising questions about the extent of value for money PFIs offer. The review also revealed that inappropriate incentives given by the previous government to utilise PFI led to their use in areas where there was uncertainty over the long-term on the future requirements of services or where rapid technological changes made it difficult to establish long term service requirements. Furthermore, changes in global debt market conditions as a result of the financial crisis of 2007/08 have forced many project finance banks to either withdraw from long-term lending or offer long-term loans but at a higher rate.[2] However, the review highlighted the private sector's project management skills, innovation and risk management expertise as some of the strong points of PFIs.

In an attempt to improve PFIs, the government has already introduced some reforms such as the launching of Operational PFI Savings Programme to improve the cost effectiveness, value for money and transparency of operational PFIs. The government has already made savings in this area to the tune of £1.5 billion.[3] It has abolished the PFI incentives that were given by the previous government and introduced new arrangements for the assurance and approval of major PFI projects to improve scrutiny and control. In the future, the government's new approach to PFI, called PF2, would be based on a number of other reforms. One of these is to strengthen significantly the partnering relationship between the public and private sectors. This would be done by the government becoming minority public equity co-investor in PF2 projects and by

introducing funding competitions for a proportion of equity in order to attract long-term investors into PF2 contracts before their financial close.

In order that PF2 procurement is faster and cheaper, the government will seek to improve public sector procurement capability by strengthening the mandate of Infrastructure UK and supporting departmental centralised procurement units. It will also ensure that the tendering phase of PF2 projects is no longer than 18 months. Any exceptions will have to be agreed with the Chief Secretary. Additionally, standardisation of PF2 contracts and strengthening the scrutiny of project preparation at the pre-procurement stage would be carried out.

Improvement in flexibility, transparency and efficiency of services under PF2 will be brought about by removing soft services such as cleaning and catering from projects. Procuring authorities (i.e. public sector departments) will be given discretion on the inclusion of certain minor maintenance activities at the start of a project and flexibility will be given to them to add or remove certain elective services once a contract is in operation. Additionally, periodic reviews of service provision will be introduced to boost flexibility and efficiency of services.

Transparency will be transformed for the better by introducing control totals for all financial commitments emanating from off-balance sheet PF2 projects. Moreover, it will be mandatory on the private sector to provide information on equity returns and these will be published together with detailed annual report on project and financial information on all those projects in which the government has an equity stake.

Value for money for the taxpayer through PF2 projects will be improved by greater management of risks by the public sector including the risk of additional capital expenditure arising from an unforeseeable change in law, utilities costs, site accommodation and insurance. As a result of the global financial crisis, the financing structure of PF2 projects will be designed to enable access to long-term debt finance (other than bank loans) through the capital markets.

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